DOCUMENT RESUME

ED 356 798 IR 054 547

TITLE	State of the Modern Information Professional, 1992-1993. An International View of the State of the Information Professional and the Information Profession in 1992-1993. FID Occasional Paper 4.
INSTITUTION	International Federation for Information and Documentation, The Hague (Netherlands).
REPORT NO	FID-701; ISBN-92-66-00-7013
PUB DATE	92
NOTE	180p.
AVAILABLE FROM	International Federation for Information and Documentation, P.O. Box 90402, 2509 LK The Hague, Netherlands.
PUB TYPE	Collected Works - General (020) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Foreign Countries; Futures (of Society); Information Needs; *Information Scientists; Information Services; Information Technology; International Studies; Librarians; Postsecondary Education; *Professional Education; Professional Training; Profiles
IDENTIFIERS	Africa; Caribbean; Denmark; Dominica; Europe; Finland; Hungary; Information Policy; *Information Providers; Latin America; Malaysia; Venezuela

ABSTRACT

The following 14 papers are provided: (1) "Perfil del profesional de la informacion en Venezuela" with a synopsis in English: "Profile of the Information Professional in Venezuela" (A. D. Anton and M. S. de Arenas); (2) "The Modern Information Professional in the Caribbean Setting" (D. Douglas); (3) "Development of Information Professionals and Paraprofessionals in the Organization of Eastern Caribbean States, with Special Reference to the Commonwealth of Dominica" (S. Evan-Wong); (4) "To Experience a Connection; In Search of a New Information Professional for Latin America" (I. Paez-Urdaneta); (5) "Information Intrapreneuring and Entrepreneuring" (A. S. Warner); (6) "The Information Professional in Denmark" (J. Christensen); (7) "The Great Variety of Roles and Careers for Modern Information Professionals in Finland: A Review of the Current Situation and Signs of Change" (M. Karivalo and R. Launo); (8) "Information Policy in New Circumstances in the Region of Central and Eastern Europe, with Special Regard to Hungary" (G. Rozsa); (9) "Education and Training as a Key to Professional Success" (E. Simon); (10) "Darwinism Extremis: Evolution for Survival: A New Breed of Information Professionals for the 21st Century" (L. R. Baker); (11) "Information Professionals in Malaysia: Roles, Careers, and Development" (R. A. Yaacob and L. bin Hashim); (12) "Information Professional: Agent of Cultural Preservation and Promotion in Africa" (M. N. Lelo); (13) "Roles, Careers and Prospects for Tomorrow's Information Professional in French Speaking Sub-Saharan Africa" synopsis of "Roles, Carrieres et Perspectives du Professionnel de l'Information de Demain en Afrique Subsaharienne Francophone" (O. Sagna); and (14) "The Changing Information Society: Changing the Information Professional" (M. Hill). Author biographical sketches are included. (Contains 153 references.) (SLD)

ED356798

STATE OF THE MODERN INFORMATION PROFESSIONAL 1992-1993

U.S. DEPARTMENT OF EDUCATION
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An International view of the state of the information professional and the information profession in 1992-1993

Compiled by the

FID Special Interest Group
on Roles, Careers and Development
of the Modern Information Professional (FID/MIP)

FID 701

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FID Publication Number 701

FID Occasional Paper No. 4

No. 1	From Informal Gatekeeper to Information Counselor: Emergence of a New Professional Role
No. 2	National Information Policies
No. 3	Management Ratios of Industrial Information Services
No. 4	The State of the Modern Information Professional 1992-1993

Published and distributed by:
FID
P.O. Box 90402
2509 LK The Hague
Netherlands

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ISBN 92 66 00 7013

PRINTED IN THE NETHERLANDS

FID Occasional Paper 4

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ISBN 92 66 00 7013

PRINTED IN THE NETHERLANDS

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Preface

At the beginning of 1991 the FID Council decided to set up a Special Interest Group on "Roles, Careers and Development of the Modern Information Professional" (FID/MIP). The Special Interest Group was set up to consider the expanding role of the information professional in modern society and the impact of this role on FID as a whole.

The incredibly rapid changes in information handling technologies in the past two or three decades, have altered, in some cases drastically, the activities of information professionals and the functions of individual information departments within larger institutions. FID, as the leading professional organization for individuals and institutions involved in information handling and management, has to play an important role in this evolutionary period.

In 1992 the FID/MIP Special Interest Group initiated an ambitious and continuous project to monitor the State of the Modern Information Professional. FID, in its role as an international showcase to demonstrate the career and professional opportunities for practicing information professionals, intends to prepare a major publication every two years before the FID Conference and Congress.

The first edition of the *State for the Modern Information Professional*, is a snapshot of the Modern Information Professional from each region of the world and covers many aspects of the information field, and will serve as the baseline of future FID/MIP activities.

The publication is a must for all those involved in the information profession - whether working as information professionals, educators, policy-makers, and all others with a stake in the information field.

I am grateful to the Chair of FID/MIP, Ms Barbie Keiser (USA) and Ms Barbara Gumbs (Trinidad and Tobago) for compiling the excellent collection of papers. I would also like to thank all those who have made contributions to this collection and the members of the FID SIG on "Roles, Careers and Development of the Modern Information Professional" (FID/MIP) for their suggestions on the preparation and content of the *State of the Modern Information Professional 1992-1993*.

Ben G. Goedegebuure
Executive Director
International Federation for Information and Documentation (FID)

STATE OF THE MODERN INFORMATION PROFESSIONAL 1992-1993

Introduction

BARBIE E. KEISER
Chair, FID Roles, Careers and Development of the Modern Information Professional (FID/MIP)
New York, New York, USA

In addition to the increased availability of information in recent years, the introduction of advanced information technology has had a profound effect on societies, governments, and users. Living standards have been raised, and the problems of everyday living eased considerably. The role which information (both content and technology) has had in contributing to the progress is discussed in this set of outstanding papers authored by information professionals from all over the world.

In *Perfil del Profesional Moderno de la Informacion-Venezuela,* for instance, Aida Damas Anton and Mercedes Santana de Arenas tell us that both the government and public are beginning to recognize that information can play a substantial role in enabling and accelerating the economic growth of their nation. The government of Malaysia has incorporated this notion into its "vision towards achieving the status of a developed nation by the year 2020." (See *Information Professionals in Malaysia: Roles, Careers, and Development* by Dr. Raja Abdullah Yaacob and Laili bin Hashim)

- Prof. Rozsa tells us that a developed economy requires an "open information economy" with an integrated approach to information and communication technology. (See "Information policy in new circumstances of region of Central and Eastern Europe, with special regard to Hungary)".
- In a discussion of training for information professionals, Merja Karivalo and Ritva Launo tell us of the importance being placed on IS in both the public and private sectors in Finland. (See *The great variety of roles and careers for modern information professionals in Finland*)

The papers in this volume illustrate how nations around the world have chosen to address information issues that, until now, have remained largely ignored. The authors lay out solutions to information problems that are particularly innovative, and offer them as potential models for other countries with like concerns. Similarities between and among the regions of the world abound: Where Mamosi Lelo of Morocco speaks of information professionals having a responsibility to preserve a culture, Gyorgy Rozsa of Hungary describes libraries as "carriers of the values of human culture."

Both M. Lelo (Morocco) and D. Douglas (Jamaica) convey to the reader a need to deal creatively with a society that traditionally employs oral methods for transferring information. This was difficult enough when the issue was reading and books; it is made much more complicated with the introduction of technology. Both authors focus on the rural nature of their region as having had a significant effect on the type of information services provided, and the way in which those services are provided.

As Aida Damas Anton and Mercedes Santana de Arenas remind us, the advanced information gathering techniques we employ, as well as the new technologies, require a more sophisticated

user as well as information professional. Who else is in a better position to educate the society than the information professional?

Beyond the traditional

The demands of the labor market will dictate the type of information services we deliver in the future. In most of the countries discussed in this work, the demand of the private sector (industry) has replaced the information needs of the public sector as the primary source of employment opportunity, accompanied by a higher salary for the information worker. The private sector relies on the "dynamic information services" provided by the Modern Information Professional.

The papers in this volume all stress the importance of going beyond the traditional roles and responsibilities of the librarian, archivist, records manager, and documentalist, and what is required in the way of education and national information policy to achieve this. Iraset Paez-Urdaneta believes that today's information professional creates new niches for him or herself and extends existing ones. (See "To experience a connection: In search of a new information professional for Latin America") In "The Great Variety of Roles and Careers for Modern Information Professionals in Finland," Merja Karivalo and Ritva Launo remark on the possibilities of vertical and horizontal expansions.

When the authors address the skills that are necessary for the modern information professional to succeed, they rarely mention the traditional. Instead, E. Simon (Germany) and J. Christensen (Denmark) describe the modern information professional as possessing an extravert personality and good language (communication) skills. No matter which route we choose to take, intrepreneuring or entrepreneuring, Alice Sizer Warner of the United States stresses the importance of incorporating good business managerial skills into our work. (See "Information intrepreneuring and entrepreneuring")

In *To experience a connection: In search of a new information professional for Latin America*, Iraset Paez-Urdaneta details the "knowledge, skills and attitudes required to ensure professional efficacy." He presents Key Professional Assets as a mix of personality values and such functional skills as communication, socialization, management, instrumental, technical, and intellectual.

The new environment in which we operate demands that we abandon our passive attitude toward the profession we have chosen as well as in our day-to-day activities. According to Daphne Douglas, the modern information professional must "find novel ways and means to counteract the inertia caused by" shrinking economic resources, poor career structures and incentives, and what she calls "the traditional and passive mode of information professionals." Iraset Paez-Urdaneta points out to us that proactivity in other professions has helped to "shape the demand and create their own opportunities."

In his superb article, *Darwinism extremis - Evolution for survival: A new breed of information professionals for the 21st century*, Leigh Baker helps us to re-define the information profession by widening the "range of possibilities," information production, delivery, and consumption. He urges us to move beyond the role of information custodian to one that influences what is produced, how it is distributed, and how it is used.

Mr. Sagna of Senegal exhorts us to be adaptive, flexible, aggressive and market-oriented, with our everyday activities addressing or servicing the needs of the users and not the internal workings of our facility, be it a library, records center, or archive. Daphne Douglas (Jamaica) talks of our having been intent on becoming model administrators, our attentions focused on the internal operations of our libraries or documentation centers as opposed to concerning ourselves with user needs and wants.

All of the authors whose papers appear in this volume represent the custodial aspect of the work of the Modern Information Professional as being less important than the proactive stances we could take in shaping and developing our nations' information economies in the future. In *Information policy in new circumstances*, Gyorgy Rozsa (Hungary) urges us to think of information as both an activity and a product. According to Prof. Rozsa, information is a commodity of some economic value, and the library a point of transfer for the information itself. The author invites us, as information professionals, to be catalysts, just as (scientific) information itself is the catalyst for further intellectual research. Daphne Douglas believes that "intellectually able persons seek other careers" because we do not provide them with the "opportunities for research, for reflection, for initiatives in creativity" that other professions afford university applicants. She asks us to consider clarifying career paths which potential information workers can appreciate, and designing formal training to help them meet their goals. Many of the contributed papers mention the fact that significant numbers of traditional information specialists are moving out of the profession. Rather than viewing these persons as having left the profession, can we not simply redefine who we are not by the facility we manage (i.e., the library, records center, or archive), but rather the fact that we accomplish information-related tasks in a variety of settings, some not traditionally thought of as being part of the information domain.

Education and training issues

The authors turn much of their attention to the need for better education, both formal and on-the-job, for professionals, para-professionals, and users alike. Aida Damas Anton and Mercedes Santana de Arenas are concerned that, in a country offering only one graduate programme and two undergraduate programmes in the field, there will not be an adequate number of information professionals to meet the demands of an economy the size of Venezuela's, and that other individuals will step in to try to meet those needs, often inadequately. According to the authors, lack of manpower development has led to the distribution of information activities across disciplines. With no clear career path to present to potential library science students, Venezuela is left with a shortage.

Olivier Sagna tells us that in Sub-Saharran Africa there is also an insufficient number of information professionals to meet the demand - a situation which has led to the employment of unqualified personnel. No matter how much training they might receive (described by Sagna as "short-term training"), these people are likely to fall short of the optimum. This leads to the general public's opinion that the information professional is not always up to the task. No wonder "the poor image and self-esteem of the profession."

A better-trained worker would have greater self-esteem and be more motivated to do a better job. This notion of training as a morale-booster is reinforced by Sue Evan-Wong's paper on the Dominica. She describes process used by the National Information System with regard to setting salary scales, performing job analysis and individual performance appraisals, emphasizing the role of each in the development of an information staff. (See "Development of information professionals and paraprofessionals in the Organization of Eastern Caribbean States, with special reference to the Commonwealth of Dominica")

In addition to training, higher salaries which enable the information worker to feel valued and appreciated is deemed essential by several of the authors. The "low salaries paid to working professionals" is demeaning to the professional him/herself, as well as misrepresenting of his/her worth and value to the public at large. Daphne Douglas believes that more attention should be paid to creating "clearly identified career paths for advancement and recognition." Sue Evan-Wong's details how the Dominica Government uses its performance appraisal process to advance the information professional along the various salary scales and levels.

Current curricula in Africa is described by Olivier Sagna as being rigid and obsolete, with limited use of advanced technologies as tools for instruction. Iraset Paez-Urdaneta's research indicates that "topics which are professionally perceived as key for updating and sophisticating the career" are often treated superficially. He also notes a "lack of functional relation between undergraduate education and graduate education," a situation which both he and Daphne Douglas feel ought to be rectified immediately. The papers of both professors outline how their schools can (and must) change with respect to the courses offered and the skills-training provided.

A need for flexibility in both the practitioner and the curricula for the profession is emphasized in "Roles, Careers and Prospects for Tomorrow's Information Professional in French Speaking Sub-Saharan Africa" (Sagna), "The Modern Information Professional in the Caribbean Setting" (Douglas), and "Perfil del Profesional Moderno de la Informacion-Venezuela" (Damas Anton and Santana de Arenas). If we are to deliver information professionals capable of meeting the challenges of tomorrow, it is clear that we have to alter the content and mode of delivery of formal education and continuing education.

In both Venezuela and the Caribbean, we are told that traditionalists have "a narrow vision of the profession." Unfortunately, they are the leaders in the field of information in their countries/region, though the librarians trained in the 1960's are approaching retirement age, and will be replaced by information professionals with a more modern approach. (See "The Modern Information Professional in the Caribbean Setting" by Daphne Douglas for further elaboration on this aspect of the problems facing library science departments in university settings.)

All of these papers present a profession which is in dire need of curriculum development. Each discusses particular societal needs, changing environments, and advanced technologies as having had a tremendous impact on the practitioner, but limited effect on the training given to students either at the undergraduate or graduate level. Perhaps this is why Elisabeth Simon recommends an "integration of academic approach and internship."

Where the need for continuing education for professionals is stressed by Daphne Douglas, Sue Evan-Wong points out an opportunity often overlooked by associations, universities, and international aid agencies: paraprofessional development.

- For those nations and regions which depend upon non-professionals to provide adequate information services, the notion of developing a curriculum for CE of para-professionals is of equal importance to the reorientation of undergraduate and graduate level studies to support the "modern information professional."
- In many nations, professionals in other areas may be undertaking information management tasks as part of their official duties and could benefit from the acquisition of our traditional information management skills through a user-oriented continuing education programme of some kind.

Both Elisabeth Simon and Jens Christensen believe that a commitment to continual upgrade of skills is essential for the Modern Information Professional. How we accomplish this in terms of what we offer and how we deliver this to the practicing professional, para-professional, and user alike is a serious challenge our authors hope we meet. The Federation for Information and Documentation's Roles, Careers, and Development of the Modern Information Professional Special Interest Group is determined to support the efforts of its members and international development agencies in designing and delivering the education and training the Modern Information Professional requires in order to (1) succeed in existing roles, and (2) expand into the "non-traditional & emergent roles" described in the papers included in this work. We sincerely hope that you will join us in this effort.

Barbie E. Keiser
Chair, FID/MIP

Section I:

The Modern Information Professional around the Globe

Latin America and the Caribbean

PERFIL DEL PROFESIONAL DE LA INFORMACIÓN EN VENEZUELA

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Escuela de Bibliotecología y Archivología, U.C.V
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Introducción

Los cambios sociopolitícos, económicos y tecnológicos que se han producido en los últimos años y que paracen caracterizar la década del los 90, han exigido un cambio radical en el ámbito de la información.

Venezuela al igual que otros países Latinoamericanos, al participar activamente en el sistema internacional, se encuentra expuesta a las modificaciones que se presentan dentro de las actividades económicas y a las reacciones que rigen dicho sistema, donde la información es parte del quehacer diario y debe ser considerada como elemento esencial en la actividad de un Estado Moderno.

Igualmente el desarrollo acelerado de tecnologías de información exportadas por los países industrializados, han producido cambios sustanciales en las conductas de los profesionales y usuarios de la información en nuestro país.

La información en el contexto de la reforma del estado

En Venezuela a partir de 1989, se inicia una nueva política ecomómica caracterizada por:

- Reducción del Proteccionismo del Estado.
- Desburocratización de los procesos económicos.
- Privatización de empresas estatales.
- Reconversión industrial.
- Profundización en la Reforma del Estado.

Esto implica, por una parte, modificación de la economia interna, mayor competitividad, mayor apertura a mercados del exterior y el establecer nuevas formas de integración económica a nivel internacional, por otra, la Reforma del Estado supone un cambio en el rol del Estado en la formulación de politicas públicas.

La Comisión Para la Reforma del Estado (COPRE) ha considerado las áreas: social, educativa, las politicas ecomómicas, científico-tecnológica y cultural como las de mayor importancia estratégica.

Este proceso de cambios va a afectar todas las instancias de la sociedad venezolana; la información forma parte de ese devenir nacional. El papel de la información en la solución de nuestros problemas socioeconómicos, científico-tecnológicos politicos y culturales es evidente.

Por otro lado, estamos conscientes de que no hay una distribución equitativa en el dominio de la información, de allí los diferentes niveles de predominio y dependencia entre las naciones.

Para los países en vías de desarrollo el dominio de la información constituye un elemento indispensable para lograr el progreso y bienestar de nuestros pueblos.

Nuestro actual contexto socioeconómico y cultural nos obliga a replantear importantes aspectos relativos al recurso información.

La necesidad existente para la definición de politicas y estrategias orientadas a la inserción adecuada de la variable información en los ámbitos del que hacer nacional, hace indispensable prestar atención a la infraestructura operativa para el manejo de los planes propuestos por el Estado y el aprovechamiento de la información como condición indispensable para afrontar el reto de incorporar a nuestra sociedad dentro de los nuevos paradigmas.

El profesional de la información: Situación en la Venezuela actual

En el actual contexto social y económico caracterizado, como hemos visto, por complejos y vertiginosos cambios, se ha producido en los últimos años una nueva concepción y consideración del recurso información, de allí que haya sido incorporado como un lineamiento estratégico en el *III Plan de Ciencia y Tecnología.*

El Consejo Nacional de Investigaciones Científica y Tecnológica (CONICIT) convocó a principios de 1991, al *I Seminario de Información "Estrategias para la Gestión y Comunicación de la Información en la Década de los 90"*, con el objeto de discutir con los organismos y profesionales de diversas disciplinas del conocimiento, involucrados en la problemática de la información, la necesidad de iniciar acciones coherentes en la especialización de profesionales de la información unido al incremento de sus capacidades para la gerencia en el área.

Es aceptado universalmente que lo más importante para el desarrollo de un país, es el recurso humano con que cuenta, si deseamos incrementar el crecimiento económico en la última década del Siglo XX debemos desarrollar el talento y la competencia de los actores involucrados en el proceso, siendo uno de ellos el profesional de la información.

Para caracterizar a este profesional que participa activamente en el trabajo de información comenzaremos por decir que si bien aún no se ha elaborado un estudio exhaustivo que defina su perfil, existen una serie de criterios que deben ser examinados:

- Uno de los problemas que se presenta en el país y nos causa alta preocupación, es que siendo Venezuela una nación muy joven en cuanto a la estructura de la edad de la población, las posiciones de liderazgo y gerenciales en el campo de la información, están asumidas por profesionales que han permanecido por muchos años en ese status, no habiéndose formado una generación de relevo para llevar a cabo tales responsabilidades.
- Existe una actitud tradicional en la mayoría (Bibliotecólogos y Archivólogos) en lo concerniente al rol que deben desempeñar, a la efectividad socio-educativa de los servicios de información y al valor estratégico de la información para el desarrollo.

Educación Formal

La problemática que se observa a nivel de pre-grado en el área de información es común a la detectada en los estudios de pre-grado en general; los informes de avance realizados por un grupo interdisciplinario de profesionales pertenecientes a diversas instituciones del sector, han

arrojado resultados similares a los presentados en el Informe de la Comisión Presidencial del Proyecto Educativo Nacional (1989) y al Informe de Avance elaborado por el Núcleo de Vicerectores Académicos del Consejo Nacional de Universidades (CNU 1990).

En los documentos antes mencionados se hacen observaciones al proceso educativo en Venezuela y se destacan varios problemas entre los que podemos citar: Sobrevaloración de los estudios de pregrado, explosión de la matrícula estudiantil, improvisación de los docentes, pocas posibilidades de seleccionar a los aspirantes, baja proporción de egresados en relación al número de inscriptos, alto índice de deserción, sobrecarga de información, asignaturas y horas de clases, lo que ocasiona una actitud generalmente pasiva por parte del estudiante, cabe señalar que por diferentes motivos la matrícula estudiantil es decreciente en las escuelas de bibliotecología.

Es de hacer notar que el país solamente cuenta con dos escuelas universitarias: La Escuela de Bibliotecología y Archivología de la Universidad Central de Venezuela y la Escuela de Bibliotecología de la Universidad del Zulia, siendo las únicas alternativas para iniciar estudios en este campo, no contándose con otra carrera universitaria que forme profesionales en otra rama de la información a nivel de pregrado.

De allí que tradicionalmente en Venezuela cuando hablamos del profesional de la información, se identifique como tal al bibliotecólogo y en años más recientes al archivólogo y al informático. Este último se ha incorporado a estas tareas, sobre todo como soporte de la área del información en el uso y manejo de las nuevas tecnologías.

En lo relativo a la educación de Postgrado, existe una sola alternativa, ofrecida por la Universidad Simón Bolívar la cual otorga el título de Especialización en Gestión de la Información, curso éste que no resulta suficiente para formar el recurso humano demandado por el desarrollo del área en el país.

Al no existir en la nación una carrera universitaria que forme de manera integral al profesional de la información, las actividades y tareas se han distribuido en equipos humanos multidisciplinarios, lo cual ha enriquecido notablemente el trabajo que se realiza, al contar con el background de muchos profesionales de diferentes áreas del conocimiento para el manejo de la información.

Por otra parte, en lo que se refiere a la formación de técnicos medios, se adolece de carreras que formen a dicho profesional, deficiencia ésta que se cubre incorporando al mercado laboral a estudiantes de diversas disciplinas que posteriormente son capacitados en forma definitiva.

Otro fenómeno a nivel de educación formal que se ha observado con mayor fuerza en los últimos cinco años, es la incorporación de profesionales de otros campos a los cursos de pregrado en bibliotecología, como una solución que le permita sistematizar los conocimientos logrados a través de la experiencia de trabajo.

Capacitación informal

Venezuela adolesce de un ente con suficiente capacidad para brindar al Profesional de la Información, los requerimientos de formación que conlleven a mantener un profesional actualizado y capaz de enfrentar los retos que se presentan ante los cambios introducidos por las nuevas tecnologías, políticas y cambios socioeconómicos.

A todo este cuadro educacional debemos sumar la poca posibilidad existente de formar profesionales en el exterior, o bien la contratación de expertos que contribuyan a la formación de recursos humanos en información, pues a medida que aumenta la crisis económica del país los recursos asignados a los organismos que otorgan becas para tal fin (Fundación Gran Mariscal Ayacucho y Consejo de Desarrollo Científico y Humanístico - CDCH), se tornan más precarios.

Igualmente la asignación presupuestaria que se otorga a las escuelas de bibliotecología de nuestras universidades, cada día es más insuficiente para cubrir sus necesidades.

Mercado Laboral

Para ver con claridad el perfil del profesional actual, es importante realizar unos breves comentarios sobre sus empleadores y así caracterizar las necesidades del mercado.

Los sectores que demandan tradicionalmente mayor personal en información, son el académico y el gubernamental y podríamos dejar en un tercer nivel al sector Petrolero y Petroquímico.

Los dos primeros, con muy pocas excepciones, buscan a un profesional que gerencie y administre unidades informativas, que en su mayoría se encuentran en proceso de modernización y que prestan servicios basados en archivos automatizados.

Estos profesionales no participan activamente en la toma de decisiones y en la planificación de actividades dentro de las instituciones a las cuales están asignados, además hay muy pocas exigencias en cuanto a su actualización.

Las Actividades relativas a la organización y procesamiento de información para la toma de decisiones requerida por el sector académico y el gubernamental, se ejecutan en departamentos ajenos a las unidades informativas y en muy contadas ocasiones son depositadas en ellas. Esto trae como consecuencia que los mencionados profesionales tienen muy poca conciencia del manejo integral de la información o gerencia integrada de información.

En el sector petrolero y petroquímico la situación se presenta en forma diferente, es innovador en el manejo de información pues ha establecido desde hace varios años el modelo de gerencia integrada de información y una política permanente de perfeccionamiento profesional lográndose la participación en la toma de decisiones, por lo tanto, ha desarrollado un perfil más cercano a las realidades exigidas internacionalmente.

En cuanto al sector productivo vemos que la demanda de profesionales en información es reciente, pero se confrontan serias dificultades para adecuar sus requerimientos a la oferta existente.

Los usuarios de la información

Para globalizar el perfil actual del profesional de la información en Venezuela debemos hacer algunas consideraciones sobre los clientes o consumidores de servicios y productos de información, "los usuarios".

Si bien no se dispone en el país de estudios de usuarios que permitan hacer indicaciones precisas sobre su situación, bien sea en forma general o por sectores, podemos señalar algunas

características que son producto de trabajos académicos (tesis de grado) y de la experiencia en el campo.

En al ámbito académico el profesional universitario, el docente y el investigador saben usar los recursos de información e inclusive, en un alto porcentaje él mismo procesa la información y exige otro nivel de servicios; esta situación es similar entre los profesionales que trabajan en centros de investigación, o asociaciones o instituciones con recursos destinados a fortalecer sus infraestructuras informativas.

En algunas áreas del conocimiento, especialmente la socioeconómica, los usuarios muestran mayor inclinación por la información estadística y es considerada por ellos fuera de los límites de la biblioteca y sólo pertinente a estadísticos y sociólogos.

No sucede igual en el campo de la biociencias, donde el usuario muestra preferencia por la información bibliográfica (artículos científicos) actualizada.

En el caso del sector público existen bibliotecas y/o centros de documentación en todas las instituciones pero con una estructura administrativa muy alejada de la toma de decisiones. El usuario de este sector podemos categorizarlo en dos niveles:

1. Los planificadores y técnicos involucrados en los planes macro, toma de decisiones y políticas gubernamentales.
2. Usuarios que están surgiendo de la dinámica social y que se encuentran formando asociaciones de vecinos, asociaciones gremiales, o cualquier otro grupo organizado con participación activa dentro del proceso democrático del país, quienes demandan información para solucionar problemas relativos a su comunidad.

En el caso de los docentes de educación básica y media vemos que éstos a pesar de su necesidad de actualización no disponen de unidades informativas adecuadas a sus requerimientos pedagógicos, generalmente tratan de satisfacer su demanda a través de las bibliotecas universitarias u otros institutos de educación superior.

El estudiante universitario sabe utilizar las fuentes informativas que le son proporcionadas por la biblioteca de sus instituciones.

La mayor población de usuarios que acude a las bibliotecas públicas la conforman estudiantes de educación básica y media, la cual demanda información para cumplir con su trabajo escolar, esta categoria de estudiantes carece de la debida formación para utilizar adecuadamente los recursos bibliotecarios.

Los niños comprendidos entre la edad pre-escolar y los 12 años participan en programas de estimulo a la lectura y de carácter recreativo en sus centros de instrucción.

Estrategias para el cambio

La necesidad de un cambio

Aunque no contamos en estos momentos con información cuantitativa, es evidente que la formación de profesionales de la información debe responder a los diversos intereses del mercado informacional emergente.

Pensamos que en el país la discusión sobre el profesional moderno de información se ha tergiversado, el motivo es que se trata de buscar en los currícula de pregrado una solución "mágica", que además no está suficientemente clara a nivel del mercado informacional ya que el empleador normalmente busca la solución a su problema de información en un sólo profesional, sin tomar en cuenta el ámbito multidisciplinario del trabajo de información, así como los diferenctes estratos y actividades.

Para asumir la realidad que estamos confrontando es necesario atender simultáneamente tres áreas vitales.

En primer lugar es indispensable formular politicas orientadas a estimular la investigación y el fortalecimiento a la educación en información.

La segunda área sería iniciar acciones tendientes a preservar e incluso a incrementar las inversiones en el campo.

Por último, es igualmente importante ampliar la oferta de cursos orientados al perfeccionamiento de profesionales.

Propuestas

La situación planteada anteriormente no tiene como ya lo comentamos una salida "mágica" que produzca cambios inmediatos, pero sí, es el momento para hacer un alto para delinear una política que asegure contar con el recurso humano requerido a mediano plazo.

Es un consenso generalizado el problema de la formación y actualización del recurso humano en todas las áreas del conocimiento de información como un asunto de importancia capital, sea como actores centrales (docentes e investigadores) como concertadores y administradores del mismo (len gubernamental y productivo) los recursos humanos son simplemente indispensables. Lo que conlleva a la necesidad inaplazable de definir una estrategia política que dé como resultado el recurso humano formado.

A la luz de la reforma del Estado Venezolano las instituciones involucradas en el trabajo de la información están realizando esfuersos para establecer estas líneas de acción.

CONICIT en su rol de coordinador del área de Información Científica y Tecnológica, ha asumido esta discusión proponiendo a nivel de la Comisión Presidencial para la Reforma del Estado (COPRE), la inserción del tema Información Científica y Tecnológica en los proyectos de ley y la definición de un plan maestro que contemple:

1. Selección de un grupo de trabajadores de la información, que puedan ser objeto de tratamiento especial, al definirse un programa que incluya:
   - áreas de suficiencia y experiencia profesional.
   - necesidades de capacitación o actualización individual.
   - Preparación de un programa especial de recursos cortos dirigidos a completar el perfil requerido para estos individuos.
2. Preparación de un proyecto que sea presentado ante la Fundación Gran Mariscal de Ayacucho para incorporar los estudios de la información como área estratégica en la formación de recursos humanos.
3. Modernización del pensar de las escuelas de Bibliotecología y Archivología para adecuarlas a las nuevas realidades.

4. Fortalecer la Unidad de Investigación en Estudios de la Información, recién iniciado en la Escuela de Bibliotecología y Archivología de la U.C.V., ya que ello constituye un elemento crítico en las cadenas de formación de recursos humanos.
5. Fortalecimiento y creación de estudios de postgrado en las universidades nacionales dirigidos a la formación de profesionales que van desde los cuadros básicos de investigación hasta la formación de especialistas.

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PROFILE OF THE INFORMATION PROFESSIONAL IN VENEZUELA

Synopsis

Introduction

The scope of informational needs is changing radically in the decade of the 90's due to sociopolitical, econ and technological change. New information-gathering and utilization technologies require more sophisticated information professionals and more informed users.

Information in the context of governmental political reform

Since 1989 Venezuelan politics has been characterized by less government control, reduced regulation, and greater increased competitiveness, greater integration in the world economy and a new role for the state in forming social policy. The need for more and better information is necessary to cope with socio-economic, scientific-technological and cultural issues.

Developing countries suffer from a relative lack of availability of information, yet such information is especially important to assure the people's progress and well-being. The task before us is to define policies and strategies for information management on a national level.

The current status of the information professional in Venezuela

A government task force recently put forward a new conceptualization and framework for the management and communication of information resources. Coherent actions in now required to enhance the capacities of information professionals in the management of information.

Human resource development is the foundation of national economic development. One area of need in human resources is for the information professional. Current leaders in the field of information are traditionalists. Their vision is narrow regarding the role they see as necessary for themselves and for the use of information. Further, they fail to fully understand the strategic value of information for the development process.

Formal Education

In Venezuela formal education in information sciences suffers from a lack of dynamism and fewer students are choosing library science as a career. Only two schools offer undergraduate programmes in the field, and there is only one graduate programme. The result is a tremendous lack of manpower development of information professionals. Because of this situation, information activities have often been distributed across multidisciplinary teams of professionals. This has been positive in one sense, but has contributed to the shortage of career professionals in information. Additionally, budgets of the schools in library science/information science continue to swindle, failing to meet event the most basic needs.

Labour market

The greatest demand for information personnel has been in three areas: academia, the government and the petroleum industry. In the first two cases, these institutions employ professionals to manage and administer information units and who by and large do not participate in decision making and planning activities. Thus these information professionals so do not understand the use and integration of the information they manage. In the petroleum industry, on the other hand, integrated management information systems are the norm. Here the integration of the information professional in the decision making process resembles the reality found internationally.

Consumers of information

Academics in general are capable of utilizing information resources, and additionally most academics can process information and seek specialized services such as statistical analysis and bibliographical material. In the public sector, there are typically existing administratively of this resource into the decision making process.

Strategies for Change

There is ample evidence of the need for new information professionals to cope with the diverse interests of the emerging information market. Traditional approaches have to be transcended with the recognition today of the multidisciplinary scope of information activities as well as the need for different levels of decision making. Three areas need to be attended to simultaneously:

1. policies to stimulate research and strengthen educational activities in information science;
2. secure greater funding in the field; and,
3. offer more training to existing professionals.

The greatest immediate need is to develop a policy to assure adequate manpower in the near future. Manpower needs to include educators, researchers, and administrators. A presidential commissions's master development plan is targeting actions steps for the development of scientific and technological information. These include:

a) A manpower needs assessment, including individual training needs, and a short term programme to complete those needs.
b) A compilation of research studies in information which reflect the current need for human resources.
c) change the thinking of the schools of library science in light of modern requirements
d) strengthen the Office of Research in Information Studies (recently initiated at the graduate school)
e) strengthen the existing graduate programmes and develop new ones in national universities.

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THE MODERN INFORMATION PROFESSIONAL IN THE CARIBBEAN SETTING

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Background

The Caribbean region consists of many countries which have been developed out of African, Dutch, English, French, and Spanish traditions. It is not therefore easy to write of them as a homogenous group. For this reason this article specifically addresses the situation as it exists in the English-Speaking grouping. This grouping consists of the relevant islands within the Caribbean sea, mainland territories which border the sea and indeed, nearby countries which are always associated with the 'Caribbean' region although they are in point of fact situated nearby but in other waters. This is true of Guyana, situated on the South American mainland and washed by the Atlantic ocean and The Bahamas, islands actually in this body of water. The listing is as follows:

Anguilla
Antigua and Barbuda
Bahamas
Barbados
Belize
British Virgin Islands
Cayman Islands
Dominica
Grenada
Guyana
Jamaica
Monserrat
St. Christopher and Nevis
St. Lucia
St. Vincent and the Grenadines
Trinidad and Tobago
Turks and Caicos Islands

All these countries were one time colonies of Great Britain but most of them are now independent states while the rest have internal self government. Like most countries which have had a similar type of colonial history, they fall into the economic category of 'developing countries' and therefore have the same type of profiles usually associated with such countries. They are all greatly in need of social, economic, educational and technological advancement. Although much leeway has been gained since the 1960s and 1970s when the movement towards independence began, world trends such as the oil crises and inflation have retarded their growth and in some instances have put back development levels previously attained.

Two things are obvious given this situation. One is the important role that information systems must play if these countries are to move forward with any rapidity and to overtake the more advanced countries. Vitro said that the difference between developed and developing countries is the use made of information[1]. Access to information therefore becomes crucial to all the people who can and should use it. The second point is that such people often do not recognize this need and there are countless lost opportunities to utilize information when this would have enhanced decision-making and problem-solving. It follows then that the human resource in information systems and services must form a very essential element in the process of development. It means that a rather special type of information professional is needed to promote the exploitation of information in order to achieve a measure of growth and improve conditions for the inhabitants of these countries.

It is the intention therefore in this article to overview the development of these human resources in the Caribbean area and to attempt to assess the extent to which they measure up to the special

competencies and attitudes which are vital if they are to perform adequately in the situation which exists in the area.

The writer has traced the methodology for the provision of this trained personnel up to the end of the 1970s in her contribution to the *International Handbook of Contemporary Developments in Librarianship*[1]. In this writing, the commencement of professional services is traced back to the start of the 1950s when it is identified that these services began to have significance. Fortuitously, for this exercise, there are clear period divisions and pointed influences which have guided this movement and one can in a way link these phenomena with internally produced causations in order to determine the pluses and minuses of the systems that have evolved. It is also possible to identify some of the needs which are yet to be satisfied for optimum delivery of the required services.

Overview of influences

Three major influences have worked to bring into existence the cadre of information professionals, the kind of systems they have built up and the type of services they offer. The practices in countries from which information professionals have come to the Caribbean and to which nationals have gone for preparation together with the ideas gleaned during orientation tours have all had a significant bearing upon what has taken place in the region. However, sight must not be lost of the strong influence which the environment, be it political, social, economic, or cultural, has indeed had to condition what has happened within the professional body. Also of significance is the great capacity these nationals have for innovation and the creation of appropriate models out of their experiences.

British influence

By far, British practice has been the most influential model for information professionals throughout the Caribbean. This is to be expected because of the relationship the countries have had with this colonial power. Three circumstances have given rise to this situation: One was that the first expatriate librarians who served at the start of professional work in this area largely came from the mother country and hence initiated the practices to which they were accustomed. The end of the 1940s to the early 1960s marked the inflow of this group. This was followed by the education and training of indigenous persons, most of whom studied for and sat the Library Association's (the British professional examining body) qualifying examinations. It was this avenue of education and training which nearly all of the first group of local professionals followed. A regional library school (the Eastern Caribbean Regional Library School (ECRL School)) was set up in Trinidad by 1950 and it prepared persons for these examinations, namely, the Entrance/First Professional Examination, the Registration Examination (culminating in the award of the Associateship of the Library Association (ALA)) and the Final Examination which earned the Fellowship of the Library Association (FLA). Later, this last qualification was awarded on the basis of a Thesis instead of course work and written examinations. In point of fact, many of the qualifying and qualified professionals actually went to library schools in Britain and did also conduct observation tours of libraries in that country.

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[1] Douglas, Daphne. "British Caribbean". *International Handbook of Contemporary Librarianship*, edited by Miles Jackson. Westport, Conn.: Greenwood Press, 1981, pp. 569-572.

For the third influence, when an independent training institution was finally established in the Caribbean in 1971 (replacing the earlier ECRL School which had ceased operations in the 1960s), it, namely the Department of Library Studies, was modelled largely on British concepts and practices; one because the University of the West Indies in which it was established was itself derived from a British institution and because the planners were also very oriented to this system. This orientation had up to that point provided for the establishment of a sound, stable network of library systems across the Caribbean and laid the foundation for the evolving services.

Of significance is the fact that the British influence was greatest during the early years of the establishment of information systems. British progressive activity in the area has had less influence in later years. So that what was traditional in Britain in terms of information provision in the 1950s and 1960s was what was transferred to the Caribbean during those years. This resulted in the establishment of the more formal "library" be it academic, public, special or school. Consequent on this was the established concept of the "librarian". This person was well versed in the procedures and practices associated with this type of professional and was instrumental in setting up library systems that offered good services and systems that were based on solid administrative practices. They were all good administrators, good collection developers, good cataloguers and indeed good reader advisors and reader services providers. If there was a negative outcome it was that the traditional concept of libraries with a base firmly rooted in a book collection and a passive approach to service was firmly entrenched in the early Caribbean librarians. They were not, unfortunately, as quick to follow example when the British themselves moved to the modern concepts regarding information provision; although there has been a good measure of adoption and adaptation of such principles and practices in the region.

North American influence

Although quite a few professionals have been to North America for their education and training, there are reasons why, particularly in the early days, their impact was not significant. One was the few number of them who used this avenue for preparation and hence they were in the great minority. Another was the great gap between the resources available to North American information systems and the Caribbean ones. This led to great frustration as returning professionals tended to view material shortfalls as deterrents to progressive application of the knowledge they has assimilated. Finally, there were obvious incompatibilities between what they learnt and the needs of the region. This is not to say that there have been no gains. American practices especially in the areas of automation and audio/visual work have greatly influenced current practices in the Caribbean. Further, this exposure has indeed stimulated Caribbean information professionals to come up with alternative approaches and solutions that meet their own circumstances.

Other countries

Caribbean information professionals have not had very much educational input from countries other than Canada, Britain and the United States. However, they have travelled widely and it is through observational tours that country practices such as are established in Europe, South and Central America and indeed in Africa have had some impact on the region. This impact has not been concentrated but has been rather dependent on individual opportunities to transfer concepts and systems to the Caribbean environment.

Developing countries of the region

While outside influences have greatly formed the basis for the activity which has taken place in the region, this activity has been coloured by the characteristics and the stages of progress within the Caribbean area. The type of service which the information professional is called upon to render has been in large measure shaped by economic, geographic, social and cultural situations. By far the economic situation has been of greatest concern, since this has influenced all aspects of the professional's life and work. It controls his/her education and training and his/her performance in terms of available resources.

Geographic situations that include problems of terrain, separate islands and over-water communication affects the type of systems and services set up. Social and cultural situations heighten or inhibit abilities to use information or even the desire to seek out information. It is,on the one hand, true of the university community and some of the corporate library services in which users of information represent a rather sophisticated clientele. On the other hand,it is also true of the oral tradition prevalent in the region and the lack of the reading habit among the lower socio-economic groupings of the different peoples. Both of the latter point towards the need for transfer media other than the printed word.

Education and Training

Information professionals in the Caribbean have had very diverse avenues of preparation for their careers. It is extremely difficult to categorize the many varieties of programmes which individuals have followed.

The most simplistic approach can be to list the professional qualifications in the group:

Associate of the Library Association (ALA)
Fellow of the Library Association (FLA)
Bachelor of Arts (B.A.) with Library Studies Major
Post Graduate Diploma in Library Studies
Master of Library Studies (MLS) and variations: MS, MS in LS, M.Sc(LS) (i.e. First professional degree)
Master of Philosophy (MPhil) (advanced degree)
Advanced Certificate
Doctorate in Library Studies (Ph.D.(LS))

Many persons have combinations of these professional qualifications and also combinations with other non-professional degrees, obtained either before or after the professional qualification(s).

Also, these combinations may consist of programmes followed in different countries. Patterns of professional education and training have been the following:

For the earlier prepared professionals: ALA and FLA (Many of these have since acquired a non-library studies first degree and a few an MLS)

For later professionals: B.A. with Library Studies Major (some have since acquired MLSs); Postgraduate Diploma in Library Studies (Some have since acquired MLSs); MLS and variations; Advanced Certificate (very few); M.Phil. (very few); Ph.D. (very few).

There is no hard and fast rule that the foregoing represents the various combinations of professional qualifications. Only a proper survey at this time would reveal the different ways

in which persons have become professionally qualified or have upgraded their professional qualifications. What is established however is that the professional education and training has been based on trainees who have reached university matriculation levels and also that university level education is the accepted mode of preparation. Also established is that several persons have obtained more than one level of professional education and training and that this has been done in the countries already named, viz, Britain, Canada, Jamaica and the United States. A few non-indigenous professionals are still employed in the region, coming from these four countries and from Africa and Asia.

Also, a factor is that many of the first professionally educated persons in the region, i.e. those trained in the 1960s are now reaching retirement age and are largely being replaced by the product of the DLS. A few of these persons are however obtaining upgrades in North American universities.

Since the institution producing the largest volume of information professionals is the DLS, It is appropriate that an overview of its organization, its resources and its programmes be included. The University of the West Indies is a regional institution supported by the majority of the English-Speaking Caribbean Countries listed in the introduction. The University was established in 1948 at the Mona Campus in Jamaica and now consists of two additional campuses in Trinidad (St. Augustine Campus) and Barbados (Cave Hill Campus). The DLS was established in 1971 as the regional education and training school for information professionals. It has five academic members of staff and a Departmental Librarian. Although main library resources are provided by a University Library System, it has its own laboratory library. Also, although the University has a main frame computer and terminal linkages across the campus, it has its independent microcomputer network and a growing software library relevant to the demands of its specialization.

At the present time, it offers two programmes. The first is a B.A. degree with Library Studies major and the second is a Masters in Library Studies. Between 1973 and 1989, it offered a Postgraduate Diploma in Library Studies but this was replaced in the later years with the MLS. To date , some 460 persons have graduated from this institution: 293 with First Degrees, 160 with Diplomas and 7 with the MLS degree.

Employment environs

Information professionals find employment within their field in the usual types of information units, namely academic libraries, public libraries, school libraries and learning resource centres and special libraries, documentation and information centres. A very few run personal consultancy services. Only 1 regional and 2 national universities exist in the area but there are a few U.S. off-shore university complexes in one or two of the smaller islands. There are a number of professional educational institutions at the tertiary level that employ these persons. Law, Religion and Teacher-training Colleges are represented among the latter. Some of the smaller countries have tertiary complexes where a single information unit serves the community.

The fastest developing group of institutions with employment opportunities for information professionals is that which covers special libraries/information centres/documentation centres. Most of these are in the public sector but a growing number are coming into existence in the private sector. In the public sector, quasi-government agencies and corporations take the lead in respect of the newer systems. The recent phenomenon of public sector interests moving into the business world affects the development of information units within these bodies and it

is in these areas that the best paying jobs and also the more obvious chances for dynamic information services are materializing.

Public library systems have developed consistently from the 1950s. Although they do have indigenous aspects of provision and service, they have tended to portray the rather traditional library type of central library with branch libraries, book centres and bookmobile stations which characterized the original British systems. Probably in this area more than anywhere else there is need for a serious look at professional concepts and services since in a way, public library services touch at the very heart of the intellectual development of the population at large in terms of their being the closest points of information contact for so many of the nationals in all walks of life.

At the bottom of the pile are the school libraries and learning resource centres. While something has possible in the coverage of professional services at the secondary level, the primary and basic levels are hopelessly without this type of staffing. There are still too many services at the secondary level not truly integrated in the curriculum and too many that are still library-oriented rather than learning resource centre oriented. And the vast conglomerate of schools at the lower levels are largely without professional services. Nor is it seen that this might be corrected in the foreseeable future. While the number of persons being recruited into the profession inhibits a spread of employment to these institutions, the whole matter of career paths and remuneration are serious deterrents to professionals selecting employment in them. A measure of professional organization and service is achieved where in several countries there is a central body, often the public library system, in charge of the service to schools. This however removes the one-to-one relationship with the individual teachers and students.

Global orientation of the professional

The Caribbean information professional has been kept well within the pale of the global professional scene. Both because of the outside influences on the education and training trends and because of wide exposure at conferences and seminars in which the leaders have participated and also because of a fair availability of literature, the group has been able to keep abreast of the more general expectations for their members.

The core subjects for information professionals has remained generally speaking the same over the years. It is in the actual content that changes occur. Information technology has always been a part of the education and training of these people whether it was called by this title or some other. In the 1960s, one learnt about reprography and printing and illustrative methods. Today, it is automation and electronic communication. And the content of the reprography classes has changed from the diazo process to plain paper photocopying.

One area however worthy of accentuation regarding the preparation of the information professional lies in influencing their attitudes in the profession and their approaches to the services which they must offer. British influence has been particularly strong in this regard and much of the commitment which has been a hallmark of Caribbean librarianship has been derived from this source. On the other hand, as a consequence of the period of influence, many of the "information science" approaches and the "facilitator" aspects inculcated in the information professionals who come back from North American schools have become evident in the image which has been created. One should in addition pay homage to the international scene and credit the work of Unesco in this direction. It has done much in its General Information Programme to influence the consideration of the vital role and function of information professional

particularly the very special functions in developing countries where access and use of information is so crucial to development.

What of the local education and training? It has been indeed fortuitous that over the years of its existence, DLS has always carried staff who had had education and training on both sides of the Atlantic. Staff have also been involved at the international level and also at the regional level. This has provided a very wide spectrum of understanding and insight in the decision-making process and in the offerings of the school. It has caused the education and training in the school to be developed with the concept that this must be in the first place global in nature, giving the products the facility to interface with all other information professionals and for them to have the same type of preparation which will render them an acceptable part of the population of information professionals. At the same time, the keenness of perception regarding the type of service they should offer should ever be at the forefront of their activities in the field and graduates do use this stimulation to generate their own interpretations for local systems.

Regional orientation of the professional

Although a universally acceptable type of professional is produced by the DLS, there are two essential emphases which are regionally based. One is that these professionals have to understand the peculiar nature of the Caribbean environment and the particular needs of its information services. They must be competent to set up the relevant systems and to offer the type of services which will respond to the cultural, social and other factors which are specially Caribbean oriented and which must of necessity influence development both of the individual countries and the region.

The other emphasis is because of the insufficiency in numbers and as a consequence the high mobility of the graduates. This has caused the school to opt to produce generalists with some specialization rather than specialists. The curricula have been so formulated as to provide a broad base of professional education and training. This has proved to be of benefit particularly in the smaller countries where fewer professionals are to be found but among whom a variety of specializations are covered even if there is no "specialist" as such.

Finally, two more things need to be reported. One concerns the functions of this person in the "developing country" context. Much has been written about information for development and the role of the information professional in these circumstances. As more and more persons from the wider professional bodies take charge of the running of countries, that is, attorneys, bankers, doctors, economists and social scientists the more an appreciation of the crucial dependence on information is being realized. However this dependence is not always translated into the provision of information systems and services. The onus has therefore been on the information professionals to push for what they know to be adequate provision in this area and to work towards sensitizing the governing authorities as to the value of such provision. It means that their role has to be proactive and that they need to function at a high level within the managerial confines of the societies.

The other matter concerns a new independent focus which is developing to meet the challenges which the Caribbean environment has created. With a tradition not founded in reading the printed word, with accents on the oral method of information transfer, with population masses that have a measure of problems with reading and comprehension abilities, much of what has been patterned on the world scene in terms of information service goes out of the window. The tradition for example of a branch library of a public library service stocked with books and little

else really has little part to play in the Jamaican deep rural setting where the country folk, anxious as they may be for information inflows, do not see the resources as those they can use to satisfy their needs.

The information professional must become a dynamic and creative provider of information in an environment which will allow transfer to take place without great effort and changes in orientation by the receivers.

Trends influencing professional development and service

There has been a growing awareness in the Caribbean concerning the value of information and information systems. As educational opportunities increase and more trained personnel are moving into positions of senior management both in the public and private sectors, demands are being made for service which will enhance operational efficiency. The officers and the technocrats are looking for a particular type of service and it behoves the information professions to satisfy this expression of need. At the same time, these opportunities are lifting more people from the labouring classes into the skilled work force and at the same time giving them abilities to make better use of information sources.

At regional intergovernmental level, both in the Caribbean Community Organization (CARICOM) and the Committee on Development and Co-operation in the Caribbean of the Economic Commission for Latin America and the Caribbean (CDCC/ECLAC), Caribbean governments have mandated the information units in the two Secretariats to provide relevant services and to seek to support national information services which feed into their documentation centres. The co-operating governments have themselves sought funding to support these mandates. At national levels, governments are also supporting library systems and obtaining scholarships for professional training. There has therefore been a slow growth of manpower in the area and it is clear that some positive returns are expected. With this type of impetus, it behoves the information professional to give the enlightened service which will create the desire for more of the same and in larger quantities.

What has also been developing, probably more rapidly that can be reasonably accommodated, is the phenomena of sectoral information systems, with co-ordinating centres and national focal points feeding into a main computerized data base. This is the case of the Caribbean Energy Information System (CEIS) and the Caribbean Trade Information System (CARTIS). Some of the smaller countries, having come into union in the Organization of Eastern Caribbean States (OECS), are establishing the INFONET database.

Many more of this type of network are being established and some systems are including document delivery services. What it all portents is that the Caribbean is beginning to overtake some of the automated services already common in the rest of the world but it also means that the human resources must also measure up to world standards and even go beyond this to offer further more specialized services because of the peculiar problems of the region. One of these problems is the difficulty in identifying source materials, the issuing of which is often uncoordinated and not checklisted in any manner.

At national levels the concepts of national information policies and national information services have caught on and given the resources, systems will be established which in concept will put whatever information is wanted into the hands of those persons who have need of it. In actual fact, it takes the resourcefulness and taxes the abilities of the information professionals to achieve positive results.

Opportunities for continuing education

There are three consequential components in the achievement of the status of a truly functional information professional. One is the first professional education and training received, the second is experience on the job and the third is continuing education both formal and informal. The time spent on and the nature of the first formal absorption of professional concepts and practices is at best a career preparation. At best, one is introduced into the art of learning one's profession and thus it is that this requires a rather broad base and directional indications of the many facets which go to make up professional expertise. Experience might well be regarded as informal continuing education but a more defined activity is also essential. This is especially so since information work is dynamic and progressively adaptable to the many changing circumstances in which it is undertaken.

For the Caribbean information professional, opportunities for experience abound. As a matter of fact, beginning information professionals are often placed in high ranking jobs because of shortages and have to gain their experience the hard way by trial and error. Some flounder in this rather difficult exercise but there have been notable success stories.

Especially in the smaller countries, the cadre of these persons is very small indeed and very soon, the members have to assume leadership positions and are marketing their services with techniques known to enhance desired results. They have to convince not only their potential clients but also their governing bodies of the value of their services. For these persons, the compulsory field work component in their training at the DLS has been invaluable. To a lesser extent, attachments for practicing professionals, particularly in new areas of expertise (new to them) have been arranged. Examples of such areas are automation, patent collection development and use, services to the blind and community information services.

As is the situation all over the field, the continuing education opportunities are insufficient to meet demands. Not even in-service training is adequate. Too few persons are able to take advantage of the openings that come about.

One avenue is the use made of formal programmes. The acquisition of advanced qualifications is possible. For Caribbean personnel,this means travelling outside the region since the programmes offered at the DLS are all first professional ones. From the First Degree or the MLS, professionals can read for high degrees in other universities. Naturally, the number of persons able to do this is very limited.

Within the formal education programmes, some graduates are able to return to the school to follow one or more courses which augment or widen their knowledge. However, this facility is limited to Jamaicans only since the country of residence is a limitation. Such courses are followed on a day-release from jobs basis. Besides the regional school, professionals have been known to attend Summer courses in Britain and North America for this purpose.

As there are several peripheral subjects to information work, information professionals do also read for degrees or follow courses in other related disciplines. Management Studies and Computer Science are two examples, and for the would-be teachers, educational programmes are useful. There have been instances where these avenues have been used by different persons but the occasions are not nearly enough for obvious reasons.

Ad hoc courses, seminars and workshops are by far the main avenues for continuing education. These are mounted in several countries in the Caribbean and have been many and varied.

Sometimes they are offered on a national basis and at others regionally with participants travelling to the location of the training opportunity. June Marke in her MLS Research Paper[2] concluded that, at least in respect of the 3 countries she surveyed, namely Barbados, Jamaica and Trinidad and Tobago, while several such programmes had been mounted, communication patterns inhibited knowledge of them and hence wider participation. At the same time, quantity and subject coverage could be much improved to meet latent demand. It is really in the regional co- ordination of these several programmes that there is a lack. Such co-ordination would offer some form of rationalization and possibly repeat offerings in several countries once a useful curriculum is established. Professionals have also had opportunities to participate in other activities outside of the region.

An avenue of continuing education which should be paramount since it can touch all persons is that of self-directed study programmes based upon the literature and upon instructional packages. Information professionals do not practice often enough what they preach to their clients, namely that the library can be used to forward the promotion of the latter's education. Three comments are relevant. One is that the upgrading of one's knowledge must be one's own responsibility. One must recognize the attributes of the modern information professional and must oneself move to attain the highest level of competence in this regard. When all else fails, the record may be the only resource for such achievement. The second concerns the matter of availability of such resources. In the Caribbean, there has been less than adequate access to the current writing and products which would enhance the necessary activity. Access is vital if there is to be dependence on these sources.

For the third comment, the importance of establishing mechanisms for the identification of sources and for document delivery has to be recognized and action initiated to ensure workable means of ensuring access. This is done for all other demands for services but information professionals are tardy in providing these resources for themselves.

As a policy, the DLS may act in a supportive capacity in promoting the foregoing ways of continuing education. Also it provides guidance and counselling for persons desirous of continuing their education. Its resources are also made available to the library community. For example, its computer facilities can be used outside of peak times for formal student work. At a different level, its publications are available. Each year, for example, it publishes a list of conferences, seminars, etc. which are scheduled to be mounted particularly in the Summer months when most professionals take their vacation.

It is well recognized that DLS could contribute more in this sphere but as yet staff numbers are restricted to staff/ student ratios and the formal education programmes must take priority. However, it does as much as it can and participates in other activities in which it is invited to co-operate.

Library Associations, National Advisory Bodies and Sectoral Interest Units such as national focal points and/or co- ordinating bodies, along with the DLS, all play a very active role in the matter of continuing education. This role may take the form of staff development through the seeking and awarding of scholarships/fellowships and by the mounting of ad hoc courses. Much of this has been achieved through the co-operation of funding agencies that themselves play a crucial

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[2] Marke, June. *Continuing Education Needs of Information Specialists/Librarians in Barbados, Jamaica and Trinidad and Tobago*. Kingston: UWI, 1990, (MLS Research Paper), pp. 62-63.

role in this regards. As a matter fact, in nearly every sphere, little would take place without the input of these agencies.

Recognized areas of development limitations

Hitherto in this article, there have been pointers to these limitations. However in this section, they will be brought together in a more direct way and highlighted with due regard to the restricting factors involved. This is necessary if attention is to be given to moving the information professional further into a state which is recognizably the modern approach.

The traditional and passive mode of information professionals: Too much is happening, is being written about and is being researched and imparted to warrant the continuance of the old mode. Promotion of progressive thought must be adopted in a way which will touch the unconverted. Granted that there is still in existence traditional systems and services, these can all be revitalized and made to be in keeping with twenty-first century ideas by changing the attitudes and approaches of the professionals who continue to hold on to the old mode. And every effort must be made that no new professional is created with non-modern ideas and out-moded concepts of services.

Career Structures and incentives: Lack of attention to these two states have brought about less than adequate recruitment to the ranks of information professionals. Two outcomes result. Many intellectually able persons seek other careers that are better defined in these respects and that have clearly identified paths for advancement and recognition. The superior mentally equipped university applicants in developing countries tend to chose medicine or law or management studies even if they recognize the value of the information field and would work in that area. Until the information professional's place is universally acknowledged and provided for in its true role and indeed until the image matches the concept of the effective information facilitator/intermediary, this situation will remain to the detriment of the profession.

As a follow on, this lack of recognition also affects the number of persons electing to enter the profession. This results in too few workers in the field , with the net result that these workers lack the time to undertake any more than the very basic service. They lack opportunities for research, for reflection, for initiatives in creativity. The best information professionals in the Caribbean work at three or four jobs simultaneously, one poorly paid and the rest voluntarily. Particularly in the smaller countries, the few leading librarians act as directors, as consultants, as teachers and as trouble-shooters for nearly every system in the country, especially as several information units have to be staffed by non- professionals.

Availability of resources: The economic situation in the region is a frustrating one where the size of the purse is limited at the same time that not only are there a variety of demands which have to be prioritized but also the ever increasing costs relating to already accepted areas of expenditure in so far as information systems and services are concerned. This has caused a halt in growth and worse, a retrocession in levels already attained.

The modern information professional now has to overcome this frustration and find novel ways and means to counteract the inertia caused by this decline and instead to demonstrate abilities which can raise these services above the resultant levels. A few of these persons are indeed targeting services along such lines as the identification and collection of free materials and in the use of electronic systems to access sources beyond their purchasing capabilities. These professionals are finding that often source materials needed to respond to expressed needs are not necessarily traditional ones but surprisingly at hand in unexpected reserves.

Education and training institutions: Writing from the knowledge of the operation of such an institution, it is evident that lack of resources within it affects the quality of the product. In to-day's world, the body of knowledge which needs to be introduced to the beginning information specialist is increasing daily. Limitations of time available within a programme, the faculty provided and the resources available have a negative effect on the ideal strategies for the creation of a professional prepared to function in the modern world.

Conclusion

The crucial importance associated with the supplying of information which is the business of the information professional and the circumstances surrounding the optimum effective services of this person in today's world require a particular mind-set. This can only be achieved by deliberate inculcation of a combination of visionary concepts and realistic but progressive methodologies for achieving a state where information supply is made to play its role in the development of society. It has to be the information professional who will bring about universal realization of the role of information in all the facets of life.

The situation as exists in the Caribbean represents a type of information professional who has received satisfactory education and training and a clear understanding of his/her role in the region and by inference, the world. His/her knowledge needs to be deepened and his/her performance strengthened. This is because the environment itself throws up barriers to performance at optimum levels. It is crucial that the ideal approach, the motivation, the inspiration for the setting up of systems and for the offering the type of service which will support the information needs of the region is fully imbued within the total person. But even more crucial is the almost visionary guise this person has to take on to influence the provision of the infrastructure which will provide for the widespread functioning of systems and services.

This has to be realized first in the formal preparation of the information professionals. But it has also and very importantly to be reinforced by continuing education activity and in the literature available for consultation.

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DEVELOPMENT OF INFORMATION PROFESSIONALS AND PARAPROFESSIONALS IN THE ORGANIZATION OF EASTERN CARIBBEAN STATES, WITH SPECIAL REFERENCE TO THE COMMONWEALTH OF DOMINICA

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The Organization of Eastern Caribbean States (OECS) is a sub-regional grouping of the least developed, small islands in the Eastern Caribbean, which seeks to promote integration among its Member States through the provisions of the Agreement Establishing the East Caribbean Common Market. The Member States are: Antigua and Barbuda, the British Virgin Islands, Dominica, Grenada, Montserrat, St. Christopher and Nevis, St. Lucia and St. Vincent and the Grenadines.

The early 1990s are proving to be years of concern for the future of the Eastern Caribbean. In the OECS, there has been a down turn in economic growth from the relatively high growth rates enjoyed by Member States during the 1980s, primarily because of a reduction in the growth rates of exports and for tourism. These have both been affected by the recession in the United States, Canada and the United Kingdom.

One of the effects of the recession has been to bring greater awareness of the importance of financial accountability, not least among the service organizations of which information professionals are a part. Staff are expensive: the largest part of most organization budgets are allocated to staffing costs. A long-term commitment to staff development has to be made by any organization that wants value for money from this expensive resource.

I have chosen to focus on the National Information System of the Commonwealth of Dominica, one of the Member States of the OECS, with a population of approximately 72,000. In common with other OECS countries, Dominica has few information professionals and therefore relies on para-professionals to run many of the services within the System. I have therefore considered the development of both professionals and para-professionals.

Information for this paper was gathered during a recent visit to the Commonwealth of Dominica, when interviews were held with the Acting Chief Librarian and the immediate past Chief Librarian.

The organization and staff structure of the Dominica National Information System is outlined in Figure 1. At present the System contains the following units: the National Information and Documentation Agency; the National Library Services, which include a mobile library based service to schools; a Readers' Service Headquarters and two Branch Libraries. An Archives plus a National Depository and Bibliographic Services are included in the Information System Development Plan, but are not yet operational. Services are provided by two professionals and twelve paraprofessionals.

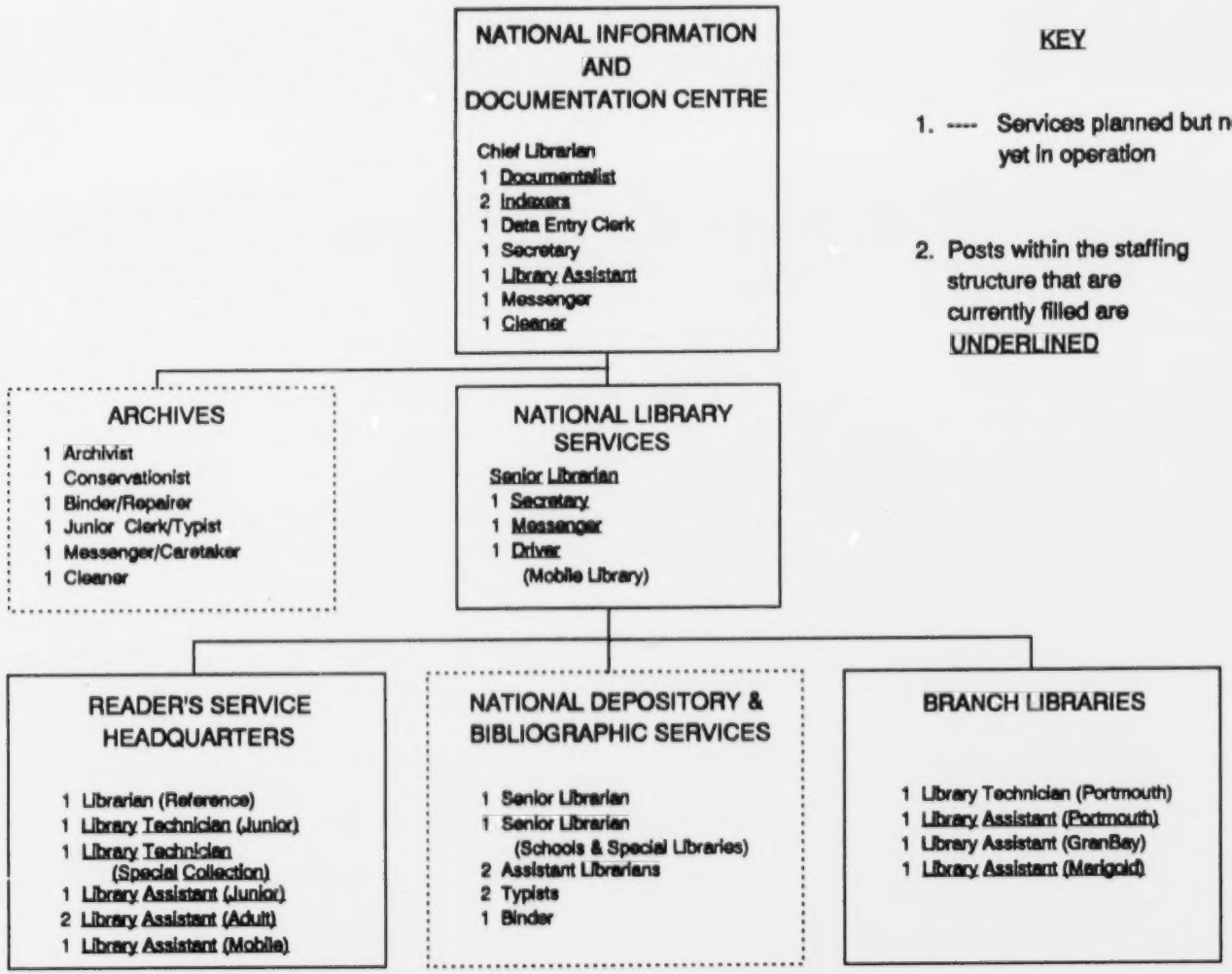

FIGURE 1: STAFFING STRUCTURE, DOMINICA NATIONAL INFORMATION SYSTEM

How do we define "development"? According to Thomason, development:

> "is seen to prepare people to perform work beyond that which currently engages them and to accept responsibilities greater than they now have... the element of individual growth [is] an essential distinguishing feature of development"[1]

Before focusing on staff development within the Dominica National Information System, let us look at this aspect of management within the Dominica Government Service as a whole:-

Firstly, salary scales are long, which enable both professional and paraprofessional staff to gain financially for their input over long periods of time.

Secondly, the Government implements the regulations which guide appointment to the Civil Service with regard to minimum qualifications. Employee's at the paraprofessional level must have at least five GCE "O" levels or the Caribbean Examination Council equivalent and thus have the ability and capacity for development. Not all the OECS governments implement these regulations, with the resulting appointment of paraprofessional staff who are unable to absorb the information offered in development programmes.

Thirdly, in 1989, the Government introduced a Performance Appraisal Process. The aim was to contribute to the achievement of each employee's potential. A Manual was compiled to provide employees with the information and guidance necessary for a full understanding of the performance appraisal process and for meaningful participation in it. The introductory section of this Manual clearly states that the Performance Appraisal Process is expected to go beyond the completion of an annual Appraisal Report. It emphasizes instead:

> "an ongoing process of job definition, goal-setting, performance planning and continuous assessment with ongoing corrective action".[2]

The annual Appraisal Report is implemented through an Employee Work Performance Appraisal Report form.[3] The form is well structured to encourage on-going assessment of the employee's organizational development needs. Information required in the final section, relating to career notes, encourages an on-going evaluation of the effectiveness of any development programmes undertaken, which will assist in ascertaining programme cost-effectiveness.

Let us now look at staff development within the Dominica National Information System.

Given the shortage of professionals in the System, it is important to encourage paraprofessional staff to develop themselves to a professional level. Promotion from inside the organization is a cost-effective method of developing staff to their full potential while increasing the professional human resource base, as it involves no selection or recruitment costs.

Within the Dominica Government Service there are two streams within the staffing structure which may be used to advance the paraprofessional. One is the clerical grade to which the library assistants belong and which enables advancement through the administrative stream to the level of executive officer or permanent secretary. The other is the technical grade to which library technicians belong and which enables the paraprofessional to advance to a professional level within their chosen field. Library technicians are expected to have at least one year's formal training in library studies, or five years experience plus completion of a number of library related short courses in addition to their basic educational qualifications.

Implementation of the Dominica Government's Performance Appraisal Process has resulted in some feedback from the National Information System which could be used to revise and develop the process.

Firstly, although workshops were held to reinforce the recommendations contained in the Performance Appraisal Manual, there is a reluctance to use the performance appraisal mechanism because of a feeling that it is too subjective. Possibly there is too much emphasis on its use as a means of telling staff what they are doing wrong rather than as a means of assessing development needs. There would seem to be a need for on-going training for those expected to complete the appraisal process.

Secondly, the Employee Work Performance Appraisal Report form is felt to be too rigid in design. Priority is given to the satisfactory completion of measurable specific tasks of duties. The managers of the National Information System believe that this type of appraisal does not accurately reflect less tangible aspects of their work, such as the importance of being able to interact effectively with users and especially, in a small System, the importance of being able to develop a good working relationship with other staff members. Revision of the appraisal form to take these aspects of work into account is a possible course of action.

While individual staff development needs can be assessed by appraisal, and by analyzing the Job Analysis and Performance Standards used by the National Information System, the development needs of the organization can only be properly assessed if they are related to the present and future objectives of the organization, which in turn must be related to the changing needs of the community served by the National Information System. Changes include an increased need for access to information available on databases throughout the sub-region and beyond. Database searching has been one area of training undertaken as part of the sub-regional OECS Information Network Project (OECS/INFONET). This network aims to develop and increase cooperation and cost-effectiveness between the information systems existing within the member states by the coordination and sharing of resources available within the sub-region.

At the national level, coordination and resource sharing between the different units of the Dominica National Information System is encouraged by holding staff meetings for the whole System at which both paraprofessional and professional staff are expected to take part in management decisions. Individual members of staff are encouraged to bring up topics that interest them, and if enough people are interested a training session may be held on the topic. Social events involving staff from all units are also organized on a regular basis.

Paraprofessional staff take part in internal sensitization attachments to ensure that there is an awareness of how services operate throughout the System. This creates an on-going internal development programme and a back-up system so that staff can be temporarily transferred to fill in for absent staff members and expensive temporary staff are not usually needed.

Job rotation has also been tried, although there are some reservations about the effectiveness of this staff development strategy as it is felt that it can lead to a lack of control over the task being undertaken which may lead to irresponsibility: when mistakes occur it is all too easy to blame the person who used to do the job, or who shares the job with you. The importance of giving even the most junior staff member control over their area of responsibility was noted.

In a System short of professional staff, paraprofessionals have ample opportunity to develop their skills by gaining experience in areas which are usually reserved for the professional: indexing and abstracting, running the schools library service or the branch library. Hierarchical

job distinctions with relation to professional/paraprofessional status are largely ignored in such a small and necessarily flexible System.

Time is taken to develop System-wide awareness of special interests and talents existing among the staff. This assists in maintaining their enthusiasm and can also be cost-effective: someone with artistic skills and some organizing ability may, for example, be given special responsibility for mounting an exhibition. The assignment provides an excellent form of new learning experience and job enrichment which will encourage the staff member involved while saving resources which would have been spent on hiring an outside person to mount the exhibition.

Continuing education (CE) is an important element in staff development. It is important both as a means of disseminating information about new developments and to satisfy development needs that occur as the result of the changes that take place during the working life of both professional and paraprofessional staff. In a recent article, Watson stresses the importance of continuing education in maintaining enthusiasm and contributing to the development of practitioners throughout the Commonwealth Caribbean, while it alleviates the professional isolation felt by information personnel based in the small islands of the Caribbean:

> "[the] need to provide information that will support the development thrusts that are so critical to nation building. Familiarity with emerging techniques also enables librarians to improve upon the level of service that they provide to their publics. Because many Caribbean librarians work in isolated circumstances, the question of access to CE opportunities is one of paramount concern".[4]

For professionals, CE is available through membership of one or more of the existing national, regional, and international associations such as the Association of Caribbean University, Institute and Research Libraries (ACURIL) or the Commonwealth Library Association (COMLA).

Professionals in the small islands of the Caribbean, such as the OECS member states have excellent opportunities to take advantage of the development programmes offered as part of their involvement in subregional and regional projects, such as the OECS Information Network, and by attending workshops and seminars available within the Caribbean and at the international level. The small number of professionals means that there are few staff members between which to share this form of continuing education and that all therefore have the chance to participate. However, as attendance at many of these workshops and seminars is financed by funding agencies, evaluation and development needs assessment are not necessarily undertaken as thoroughly as might be the case if the employing organization was funding the programmes!

Opportunities for paraprofessional CE are also available. Membership of a national library association can provide some chance for development of the paraprofessional through attendance at regular meetings which include a topic related to development, or through special development programmes. Although Dominica does not as yet have a library association, it is a possibility that is under discussion. If an association is established, a distance teaching training and development programme similar to that which is offered by the Library Association of Antigua and Barbuda (LAAB) could be considered. For this programme the LAAB organizes fund-raising events, the proceeds of which fund several annual scholarships for paraprofessionals to complete the distance teaching library technician course offered by City and Guilds of London, England.

Another opportunity for paraprofessional development is through attendance at the Excelsior College in Jamaica, which trains library technicians through a one year residential programme.

The Dominica Government has in the past provided financial assistance for paraprofessionals to complete this programme.

Paraprofessionals who wish to become professionals can pursue their studies at the University of the West Indies (UWI) Department of Library Studies, probably with government or funding agency financial support. Those with GCE "A" level qualifications would be accepted by the University, while those with GCE "O" levels or the Caribbean Examination Council equivalent can either study for their "A" levels or pursue the UWI Challenge Course at the UWI School of Continuing Education in Dominica. This Course brings them up to University entrance level.

Another paraprofessional opportunity for training and development is through the training modules developed by the UWI Department of Library Studies with input from librarians throughout the Caribbean. This project was funded by the Organization of American States (OAS), and was completed in 1988. The project's aim was to provide a basis for a development programme for paraprofessionals practicing within the Caribbean, which would be taught in their island of residence and thus obviate the need to raise funds to send them outside of their country for training. Unfortunately funding from the OAS ceased with completion of the modules, and the small OECS countries with their lack of professional staff have found it difficult to find the in-country human resources need to mount an effective training programme using the modules.

Within the Dominica National Information System the importance of transferring what has been learnt in development programmes to the work situation is recognized: that it is important that trainees, whether professional or paraprofessional, are able to make this transfer by being given the opportunity to evaluate the effectiveness of their training as it impacts on their work situation, and most importantly, to be given the chance to put their new knowledge into practice.

The Dominica National Information System has a reputation for taking its work seriously and producing high quality and timely results. Developing their limited human resource base to its full potential will assist not only in making the System more cost-effective but in enhancing their reputation for effective service.

At the sub-regional level, the involvement of OECS/INFONET programmes geared towards staff development will continue to impact positively on the development of the information professional and paraprofessional within the OECS.

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Appendix 1

Persons Interviewed During Visit to the Dominica National Information System - January 2nd 1992

Ms. Anne Lewis	Chief Librarian (Acting), Dominica National Information System.
Mrs. Connie Williams	Trade Information Specialist, OECS East Caribbean Export Development Agency. (Formerly Chief Librarian, Dominica National Information System).

TO EXPERIENCE A CONNECTION; IN SEARCH OF A NEW INFORMATION PROFESSIONAL FOR LATIN AMERICA

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The current need to identify a "new information professional" is obviously justified by the world emergence of what have been called **information-intensive economies**. Although this trend is more clearly detected in those countries of advanced industrialization, its effects are also becoming evident in countries which are less developed. The consolidation of information and knowledge as the new capital accounts for important changes in the other productive sectors of the economy as well as in the extent of governmental activities and public services. Paired with the development and rapid spread of a technology with a strong capacity to transform individual and collective work, these changes motivate today the appearance of new organizational cultures, new information-user attitudes and new demands for information services and goods, which in turn has redefined not only the nature of information work but also the profile of those being hired to do it.

This paper addresses the issue of a new information professional from the perspective of a Latin American scholar and regarding the Latin American context. The analysis starts by reviewing the main results of a study carried out by the author in relation to the education and working conditions of information professionals in the region and to a number of professional competencies ranked by a sample of local organizations contacted for this purpose. Then, the possibilities of an integrated characterization of this new information professional are examined in terms of niche, role, offer, and "frames of action". The implications of this model are afterwards discussed from an educational point of view, particularly to emphasize the need for a more comprehensive understanding of professional action, as exemplified by the notions of information service work and information management. Finally, a number of actions are suggested to facilitate a new professional approach to professional training in the region.

The education and working conditions of the information professional in Latin America

Through its PGI office for Latin America and the Caribbean, UNESCO organized in Caracas, in 1990, a meeting to discuss the state of the formal education of information professionals, and to examine the possible measures that could be adopted to promote the modernization of such education in the context of an emerging job market for information activities and of new approaches towards local socio-economic development. To support the discussions intended, a study, commissioned to the author, attempted to determine:

1. The main academic characteristics of present library and information science education in LAC
2. The structure of employment in a sample of local information services, and
3. The potential demand for people and for professional competencies that a sample of local organizations perceive as a desirable regarding information work[1].

For the first research objective, a total of 18 undergraduate programmes in an equal number of Latin American universities was surveyed with the help of a questionnaire designed for that purpose. The answers received were analyzed regarding type of institution, faculty, type of programme, student enrollment, degrees given, curricular organization, level of subject treatment, ideal preference for and actual assignment to professional activities to be performed by graduating students, as well as work destinations reported as wanted and as actually taken. The resulting student profile[2] was that of a woman 24.3 years old, pursuing a four-year study programme to receive a "Licenciatura" in Librarianship, and trained mainly in cataloging and classification, information inventories, principles of library and archival science, reference work, bibliography production, collection development, administration of conventional information services, and documentary work, in this order. As a professional, this modal student would like to get involved in database handling, data automation, document analysis and specialized reference, and would like to work in a Specialized library, a Documentation centre, a University library, an Information unit in science and technology or a private company in the information sector. The questionnaire also asked the directors of the programmes contacted to rank ten major problems that may be affecting such programmes. They placed "Negative outside perception of the career and/or the profession" first followed by "Lack of updated teaching and learning resources", "Low student demand", "Inadequate budgetary resources", and "Insufficiency of teaching personnel"[3].

Particular attention was given to the curricular features of the programmes analyzed. And though it was found that students were offered a wide spectrum of professional subjects, it was also found that those topics which are professionally perceived as key for updating and sophisticating the career were treated either superficially of theoretically, if they were treated at all. As it was detected, a high level of instruction is available in some Latin American institutions regarding professional topics such as Cataloging and classification, Information sources, Bibliographic work, User studies and Indexation. However, many of the topics which are related to those professional functions or activities in high demand by the emerging information work market[4] were the object of an intermediate level of instruction. The topics related to the new information technology and to the interdisciplinary approach to information (13 in total) receive a low level of instruction, but, as reported, students show a strong attraction to a number of them. Activities ideally preferred for professional performance do not quite match those to which actual dedication eventually occurs.

For the second research objective, 215 questionnaires were sent to an equal number of information services in the region, and 60 were selected from the 95 which were answered. Four types of information services were surveyed: 7 National Libraries (NL), 10 University Libraries (UL), 12 Specialized Libraries (SL) and 31 Documentation and Information Centres (D/IC). The results show that 30% of all people working in these services (nearly 1,980) were "professionals" (against 42.1% of "technicians" and 27.9% of "administratives"), and that 76.6% of these professionals were females, with an average age of 38 and an annual average salary of 4,500 USD. As reported, 25.3% of the professionals had directive functions (and make an annual average salary of 5,750 USD), 31.9% were in charge of servicing the public, 31.5% of conducting technical processes, 12.5% of research and information resources production, 13.0% of information analysis and consolidation, and 2.2% of document reproduction (microfilming). The number of working professionals was higher in D/ICs and SLs than in the other types of service surveyed, but, at the same time, the number of them having degrees in librarianship or information sciences was lower. Furthermore, fewer professionals tend to be hired by D/ICs and SLs than by the other services, but also fewer leave. Regarding the mobility of the professional personnel, when the numbers for vacant posts, closed posts and new posts needed were integrated to estimate actual employment capacity in the services surveyed, a range between 0.1

to 1.0 post by service resulted. If this estimation is correct, in 1989, 0.3 post could have been the average employment index for the 60 services consulted, or, more specifically, 0.1 for NLs, 0.3 for ULs, 0.5 for SLs and 0.3 for D/ICs.

Attention should be called upon the fact that a UN/ECLA study published in 1981 established that, on the basis of 1,380 "information specialists" working in 771 "information units for development" in Latin America and the Caribbean and by comparing their monthly salaries with the average salary of USD 750 a month made by their American colleagues, in 24.6% of the regional units there were professionals making salaries ranging between USD 757.50 and USD 1,117.50; in the lower 34.2% of the units, however, there were salaries ranging between USD 375 and USD 750[5]. These proportions have not improved; in fact, the average monthly salary for the 595 professionals we surveyed was precisely USD 375.

Information professionals and information competencies:
Exploring the potential demand in Latin America

For the third research objective, 175 questionnaires were sent to an equal number of public, private and other organizations. From those answered (78), 50 were selected for analysis. Results were analyzed regarding personnel size, information base size, size of information personnel (plus salaries and qualitative evaluation of capabilities), organizational aspects requiring information support enhancement, and information activities to be optimized. Half of the questionnaires selected came from governmental offices (which are therefore identified as "Sector A"); the rest came from semi-governmental, private and international organizations, as was identified as "Sector B".

Findings showed that Sector A employed 80% of all the professionals reported, but also that these professionals were paid an average annual salary of 4,300 USD vs. 7,400 USD paid by Sector B. The competencies and abilities of these professionals were evaluated differently in the two sectors: 3 / 4 in Sector A and 3.7 / 4 in Sector B. Also, in Sector A, planning was critical as the organizational area requiring the strongest informational support, as opposed to research in Sector B. Likewise, data and information storage and information analysis were reported by Sector A as the information activities most in need of optimization; information analysis was also pointed out by Sector B, but after external data collection. When a number of distinct information problems were ranked by the two sub-groups, Sector A reported "Difficult retrieval of information" and "Inadequate flow of information" as the two most important; Sector B reported "Lack of appropriate information to support organizational activities" and "Lack of appropriate information to support the decision making process".

The survey intended to weigh a number of competencies regarded as desirable for the new information professionals by services in Sectors A and B[6]. The informants were asked to assign a value from 3 ("very important") to 1 ("Not important") to a set of 19 predetermined functions. Results obtained are indicated in Table 1. Other characteristics -with comparable values- are specified in Table 2. By integrating the results of both sectors, the following ranking seems favored:

1. Training personnel in the use of infosources and infotechnology
2. Promoting the use of the organizations's infosources
3. Selective dissemination of information
4. In-house database design and development
5. Optimization of the organization's information flow
6. Automatic information storage and retrieval

7. Use and design of information systems
8. Informational optimization of the organization's decision making process
9. Systematic search of information
10. Review of specialized literature
11. Production of indexes, bibliographies and catalogs
12. Use of external databases
13. Information resources management
14. Forecasting and current awareness work
15. Production of abstracts and reviews
16. Informational optimization of functions
17. Design and marketing of information products
18. Preparation of reports and newsletters, and
19. Production of commercial databases.

	Sectors	
	A	B
Competences:		
o Information resources management	2.1	2.5
o Systematic search of information	2.4	2.4
o Review of specialized literature	2.5	2.2
o Production of indexes, bibliographies and catalogs	2.6	2.1
o Production of abstracts and reviews	2.3	2.2
o Preparation of reports and newsletters	2.3	2.0
o Forecasting and current awareness work	2.3	2.3
o Automatic information storage and retrieval	2.6	2.3
o Selective dissemination of information	2.5	2.5
o In-house database design and development	2.5	2.5
o Use of external databases	2.5	2.2
o Production of commercial databases	1.5	1.7
o Promotion of the use of the organization's infosources	2.5	2.6
o Use and design of information systems	2.5	2.4
o Informational optimization of the organization's decision making process	2.4	2.4
o Informational optimization of functions	2.2	2.3
o Optimization of the flow of information in the organization	2.5	2.5
o Training personnel in the use of infosources and information technology	2.9	2.5
o Design and marketing of information products	2.1	2.3

Table 1: Values assigned to competences desired in the new information professionals. (3 = Very important)

	Sectors	
	A	B
Attribute:		
o Graduate education	2.6	1.8
o Undergraduate education in a second area	2.1	2.1
o Ability in the use of computers	2.8	2.3
o Oral and written communicative competence	2.8	2.5
o Competence in English	2.7	2.5
o Managerial ability	2.2	2.4
o Familiarity with concepts in management	2.3	2.0
o Familiarity with concepts in economics	2.3	2.5
o Scientific and technological inclination	2.5	2.4
o Spirit of self-improvement	2.9	2.8
o Friendliness	2.7	2.6

Table 2: Values assigned to other attributes wanted in the new information professionals (3 = Very important)

On the other hand, Table 3 provides some indicators of the potential demand for librarians (Ls), archivists (As), documentalists (Ds) and information specialists (ISs) from the point of view of each sector and in relation to nine types of working scenarios. As this table shows, for Sector A, the highest demand would be for ISs (2.4 /3, with a 2.9 index in the information industries sub-sector), followed by Ds (2.1 /3, with a 2.6 index in the university, information industries and international agencies sub-sectors), followed by Ls (2 / 3, with 2.8 in the university sub-sector), followed by As (1.4 / 3, with 2.0 in the university and public services sub-sectors). For Sector B, the highest demand would be, once more, for ISs (2.2 / 3, with 2.9 in the information industries sub-sector), followed very closely by Ls and Ds (2.1 /3, with 2.4 and 2.8 indexes for the university sub-sector respectively), and then by the As (1.9 /3, with 2.1 in the state companies sub-sector). Annual salaries for these professionals were estimated to range between 4,000 and 7,000 USD in 1989, as perceived by Sector A, and between 6.000 and 9.600 USD - that is, nearly 33% more), as perceived by Sector B. For Sector A. these salaries should experience an increase of 52% by 1994 or 37.5% for Sector B. For both sectors, the jobs with the highest salaries were those corresponding to computer engineers, systems engineers, information specialists, graduate librarians, and specialized documentalists, in this order. The lowest salaries were assigned to the archivists.

Subsector:	Potential demand							
	Sector A				Sector B			
	L	A	D	IS	L	A	D	IS
Public administration	1.9	1.6	1.9	2.5	2.1	2.3	1.7	1.8
Public Services	1.9	2.0	1.9	2.2	2.3	2.0	1.8	1.6
State companies	1.4	1.5	1.8	2.1	2.1	2.1	2.3	1.8
Universities	2.8	2.0	2.6	2.0	2.3	2.0	2.8	2.7
Companies in the PS	1.8	1.2	1.9	2.2	2.4	1.8	2.0	2.1
Companies in the SS	1.9	1.3	2.0	2.3	2.2	1.7	1.8	2.0
Companies in the TS	1.9	1.3	2.0	2.4	1.8	1.8	2.2	2.0
Information industries	2.1	1.5	2.6	2.9	1.9	2.0	2.4	3.0
International agencies	2.0	1.1	2.5	2.7	1.9	1.6	2.3	2.5

L = Librarians; A = Archivists; D = Documentalists; IS = Information specialists; PS = Primary sector; SS = Secondary sector; TS = Tertiary sector

Table 3: Estimates of potential demand for information professionals for the next decade in the different subsectors (3 = High demand)

Modelling the new information professional

From a descriptive point of view, the PGI study reported above cannot be considered conclusive regarding the trends it intended to analyze. However, it yielded a number of facts which are worth discussing. Among them the technical orientation of programmes perceived as belonging to the humanities and social sciences area, the curricular weakness of many new subjects which are now required for professional practice, the decreasing number of students joining these programmes, the deteriorating institutional conditions of most such programmes, their lack of national and regional integration, or the lack of functional relation between undergraduate education and graduate education, the low salaries paid to working professionals (with an increasing local trend of professional underemployment -which, in the opinion of some local professional associations, affects nearly 64% of their membership), the low employment capacity of services, the interest reported by governmental organizations over non-governmental to optimize their own information activities, the confirmation of the technical character of the profession, and the prospect of a demand for information specialists, documentalists, librarians and archivists -in this order-, which is relative to different types of service.

Facing the situation just described, one must begin by asking oneself about the practical sense of defining a profile for a new information professional in Latin America. The specific question could therefore be: What are the attributes of this new professional? Who is going to train him/her and how? Who is going to employ him/her? For what purpose? One the one hand, since information is indeed becoming an important business also in the developing countries, there is a general agreement that urgent actions are needed to fortify the profession and its practitioners. On the other hand, it would be difficult to relate these actions with specific demands in the labor market, since potential employers do not yet quite know what to ask for and what exactly to do with the hired specialist. Nevertheless, the demand tends to open the sector to many professionals coming from other fields, who bring along new attitudes and skills towards the processing and utilization of information.

The idea of a profile for the modern information professional has been a pervasive one in the last six years. Attempts have gone from profiling the knowledge, skills and attitudes needed by a given type of librarian (and the functions he/she is to perform in a specific service environment), to profiling the "super-librarian", one who knows everything from AACR2 to expert systems. Based on the approach suggested by J.-M. Griffiths and D.W. King[7], we have tried to work out some criteria for profiling a given specialized function in terms if its professional level, the type(s) of competence to be accessed, its working scenario, the distinctive activities to be performed, the knowledge, skills and attitudes required to ensure professional efficacy, and the main indicators of effective work performance[8,9]. In our opinion, the convenience of using such criteria is still valid, but this tome we would like to propose a different approach: in one which, rather than defining a professional function in the theoretical or aprioristic terms, a professional potential is defined in terms of professional offer based on a role perception directly modelled after four practical frames of action. Figure 1 provides a representation of the approach attempted.

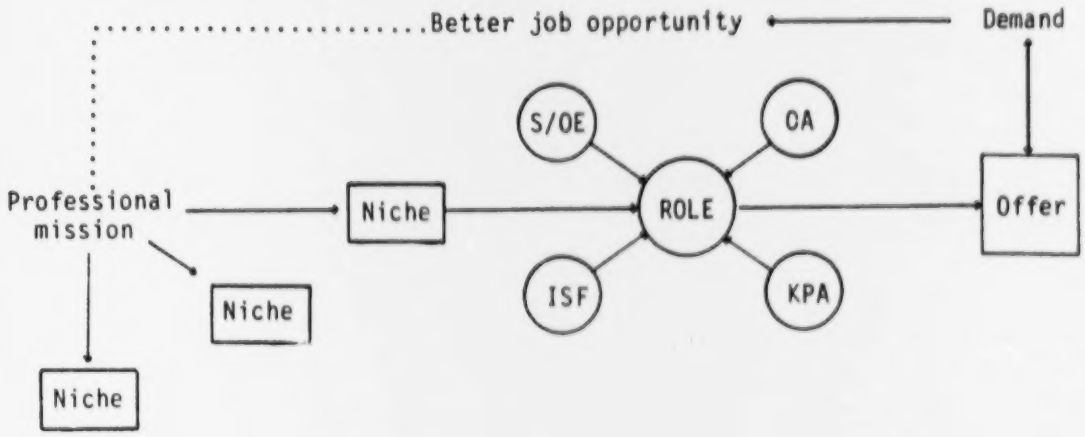


Figure 1:

A model for defining a professional role offer

S/OE = Sectorial and organization environment; ISF = Intelligence service function; OA = Opportunity area; KPA = Key professional assets

As shown, the definition of a professional mission results in the identification of a number of niches; after the interpretation of a niche is made by a given professional, a potential role is constructed by integrating a number of features derived from each of the four frames of actions proposed. When this process is complete, an offer is directed in the job market to an existing or probable demand in order to convert it into a new or more highly qualified job opportunity.

The PROFESSIONAL MISSION is a broad statement of the objectives which guide a group of people willing to transform and optimize a given aspect of the historical reality of human society, in order to foster its progress and -at the same time- ensure the specialization of productive work, and the use of its benefits for advancing individual interests. The professions's objectives are essentially the result of the ideas of those who theorize about the profession, its nature and functional scope, its values, its work standards, its socio-economic dynamics, its teleological limits. Important contributions are also made by professional associations, practitioners, educators and even by professionals from other fields.

The statement implied can be worded as to indicate -in a general manner- that the mission of the profession is to intervene in the optimal handling and servicing of information, or -in a more specific manner- to intervene in the strategic management of social intelligence, the optimization of processes for the efficient communication of that intelligence, and in the effective social insertion of the informatics technology supporting these activities. The latter is precisely the definition we have proposed elsewhere as the one we consider pertinent for Latin America today[10]. Thus understood, we then translated the professional mission into a group of "areas of strategic (professional) competence" or PROFESSIONAL NICHES. A professional niche is a work-space in which a system of competencies, experiences and learning capabilities are integrated and transformed in order to perform a set of closely interrelated activities. This interrelation is defined by a disciplinary model (a science) or a technique, and in spite of the fact that it attempts to follow universal practice, it is usually influenced by trends imposed by both the international division of labor and the local economies in whose job markets the different professions compete for opportunities.

A niche is fundamentally defined by its possibility to become the object of educational action. In a way, the mission of higher education is to train (and credentialize) people for joining a professional niche. Training takes place at different levels (undergraduate, first level graduate, second level graduate or the like), and, ideally, it adapts to those changes that gradually or dramatically affect the activities assigned to the niche. In the context of current higher education we envision twelve professional niches as possible. They are represented in figure 2.

KNOWLEDGE MANAGEMENT	KNOWLEDGE ENGINEERING	COMMUNICATION ENGINEERING
INFORMATION MANAGEMENT	INFORMATION TECHNOLOGY MANAGEMENT	COMMUNICATIONS MANAGEMENT
INFORMATION SERVICES MANAGEMENT	SPECIALIZED INFORMATION WORK	INFORMATION SYSTEMS DESIGN AND DEVELOPMENT
LIBRARY WORK	DOCUMENTARY WORK	ARCHIVAL WORK

Figure 2. Niches for the information professional

As shown, at the bottom of the figure we place the conventional niches identified as **Library work, Documentary work** and **Archival work**, which, being appropriately treated at an undergraduate level of training, we regard as the "low flying" scenario of the information profession today. At a higher level, we place three more modern niches, identified as **Information services management, Specialized information work**, and **Information systems design and development**, which can be treated at a post-undergraduate level of training (or what is called "Graduate specialization level"). In a third level up the niches for **Information management, Information technology management** and **Communications management** are identified and related to the Master training level. Finally, on top -where we place the "highest-flying" scenario for the profession today- the niches for **Knowledge management, Knowledge engineering** and **Communication engineering** are identified and related to the Doctoral training level. We have suggested a definition for almost all these areas, which we regard as working labels more than anything else[11]. However, one of the main tasks confronted by the information profession is to identify and consolidate for educational treatment a renewed less restricted, and interrelated vision of its niche structure rather than of its disciplinary configuration ("library work" is the niche; "librarianship" the body of knowledge mainly associated with the niche).

A niche opens for a willing professional a spectrum of possibilities and challenges. These possibilities and challenges have to be channelled in a given direction, or, in other words, have to be screened so as to allow the design of a potential professional role according to actual working contexts. A ROLE here is taken to mean a system of working behaviors that a person is entitled to show, on the basis of competencies and experiences he/she has acquired. This system changes along the professional life cycle of the individual; it adds and loses power depending on its competitiveness, its social and organizational pertinence and its capacity for taking up new work interfaces. The working contexts are mapped by what we have called "frames of action".

<table>
<tr><td colspan="3">GOVERNMENTAL SECTOR</td><td colspan="2">INTERMEDIATE SECTOR</td><td colspan="2">PRODUCTIVE SECTOR</td><td rowspan="2">Sector of the economy:</td></tr>
<tr><td rowspan="2">Legislative Power</td><td rowspan="2">Executive Power</td><td rowspan="2">Judicial Power</td><td rowspan="2">State enterprise (private national capital)</td><td>State enterprise (Foreign private capital)</td><td colspan="2">Formal sub-sector</td></tr>
<tr><td>State enterprise (Foreign and national consortium)</td><td>Private company (National capital)</td><td>Private company (Foreign capital)</td><td>(4) 3</td></tr>
<tr><td colspan="3" rowspan="2">Decentralized administration</td><td colspan="2">INTELLIGENCE SECTOR</td><td rowspan="2">Private company (National & foreing consortium)</td><td rowspan="2">Public company (National capital)</td><td rowspan="2">2</td></tr>
<tr><td>Public universities</td><td>Private universities</td></tr>
<tr><td colspan="3">State government</td><td>R&D institutions (public support)</td><td>R&D institutions (private support)</td><td>Public company (National & foreign consortium)</td><td>Public company (Foreign capital)</td><td>1</td></tr>
<tr><td colspan="3" rowspan="2">Municipal government</td><td colspan="2">PUBLIC SECTOR</td><td colspan="2" rowspan="2">Others</td><td rowspan="3"></td></tr>
<tr><td>Neighbor associations</td><td>Non-governmental organizations</td></tr>
<tr><td colspan="3">International governmental organizations</td><td>Political organizations</td><td>Private non-profit organizations</td><td colspan="2">Informal sub-sector</td></tr>
</table>

Figure 3. Sectorial/Organizational Environment

Figure 3 broadly describes the first frame of action we have defined as SECTORIAL/ORGANIZATIONAL ENVIRONMENT. The idea is to imply that a given professional role is not perceived (or does not function) in the same way in the government sector as in the productive sector, or even in the subsector of privately owned national companies as in the subsector of transnational financed companies, or even in the subsector of privately owned national companies in the primary sector of the economy as in those in the tertiary sector. Information professionals should be made aware of the nature of each sector and subsector, its strategic, tactical and operational needs, the extent of its informational dynamics, its comparable working advantages.

Figure 4 provides a second frame of action defined as OPPORTUNITY AREA. This frame does not necessarily relate to "areas of knowledge", but to a number of broad thematic niches referring to the main problems and activities of modern human life. Again, an information professional should be made aware of the informational nature of each area, its links with the sectorial and organizational world, its current and potential impact for the modernization of social life, the obstacles that hamper collective and individual access to its literature. The attribute of "opportunity" is given to indicate that each area can be a source of interesting and rewarding information work if a willing professional perceives it in terms of an advantage to be capitalized for his/her own benefit.

A third frame of action for role definition could be related to the kind of INTELLIGENT SERVICE FUNCTION in which the information professional would like to engage. The ISF notion is associated with the "effectors" mentioned in our proposal for the design and implementation of a **National Intelligence System for the Modernization of Development**, a model based on the "social intelligence" concept developed by S. Dedijer[12].

Figure 5 represents such effectors as **Sensors, Operators, Tanks, Promoters and Users**. In general terms, the Sensor function is a mechanism for detecting the opportunities and problems to which a National Intelligence System must react and for directing and positioning them in the System, mainly trough the Operators. An information service unit is an Operator, that is, a mechanism for documentalizing the referred problems and opportunities as "information packages". These packages are then processed by the Tanks (i.e., the universities, research institutions and the like) and converted into "knowledge packages" and models for their social or national exploitation or use. Promoters are in charge of transferring or marketing these models to actual or potential Users, who in turn may convert them into concrete social actions[13].

Fig. 4: Opportunity areas for the information professional.

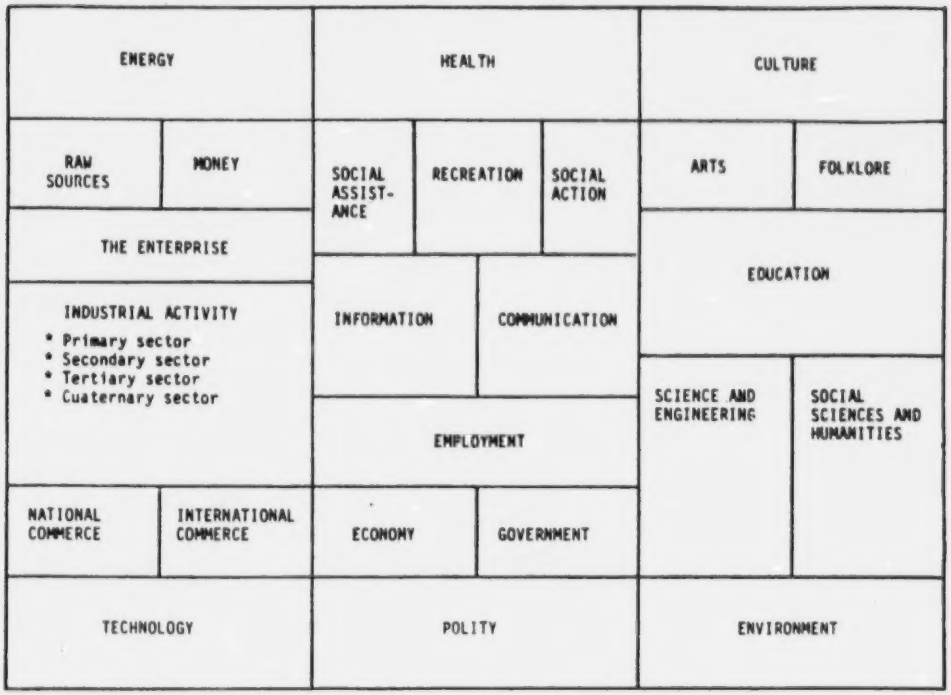
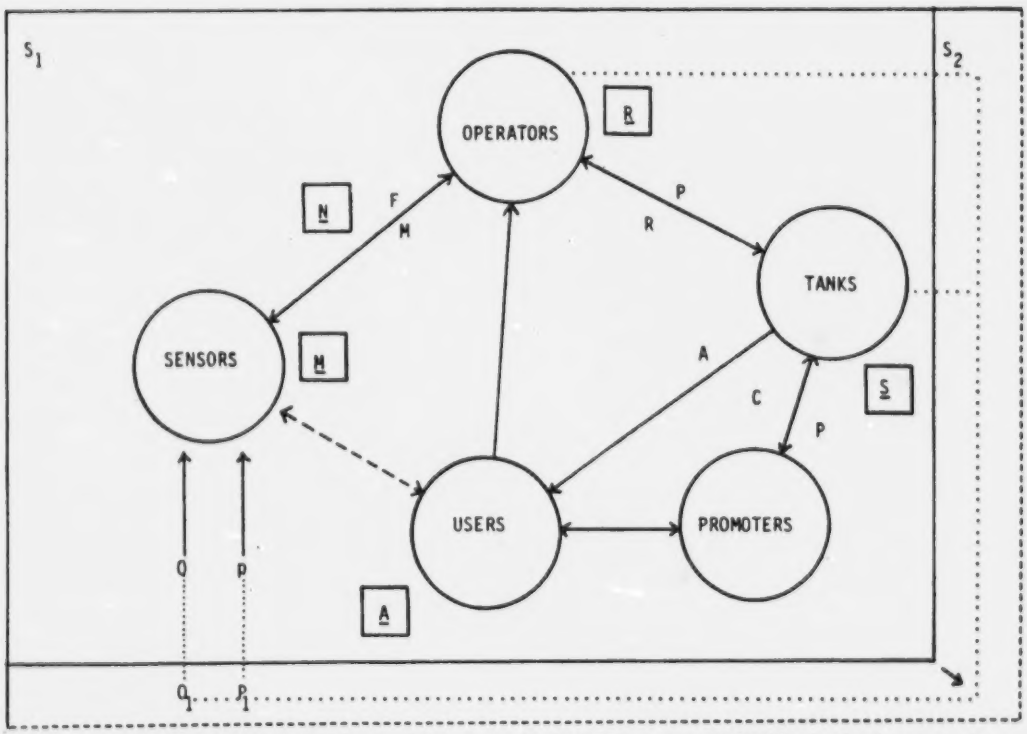


Fig. 5: Intelligent service functions.



S= State, M= MONITORING, N= NEED, F= Filtering, M= Modelling, R= RESPONSE, R= Refinement, P= Packaging, S= SOCIALIZATION, A= Ambientalizing, C= Consolidating, P= Positioning, A= Action. O= OPPORTUNITY, P= PROBLEM.

Table 4: Key professional assets

PERSONALITY VALUES

V01= Creativity
V02= Independence
V03= Reliability
V04= Stability
V05= Self-confidence
V06= Friendliness
V07= Authority
V08= Precision work
V09= Work with others
V10= Work under pressure
V11= Pioneering attitude
V12= Willingness to take challenges
V13= Willingness to learn
V14= Willingness to advance
V15= Openness
V16= Competitiveness
V17= Professional awareness
V18= Thematic point of view

FUNCTIONAL SKILLS

COMMUNICATION

S01= Persuasion
S02= Negotiation
S03= Teaching
S04= Selling ability
S05= Discussing
S06= Writing
S07= Using foreign languages

SOCIALIZATION

S08= Interpersonal dynamics
S09= Group processes
S10= Counseling
S11= Conflict resolution
S12= Servicing
S13= Involvement in public issues

MANAGEMENT

S14= Planning objectives and goals
S15= Defining missions and strategies
S16= Organizing work and units
S17= Direction and coordination
S18= Decision making
S19= Problem solving
S20= Ability to motivate
S21= Supervision and evaluation
S22= Budget control
S23= Resources allocation
S24= Hiring personnel
S25= Reviewing policies

INSTRUMENTAL

S26= Ability to use specific tools
S27= Ability to use specific work methodologies
S28= Ability to innovate in the use of tools and methodologies
S29= Ability to evaluate the efficiency of tools and methodologies

TECHNICAL

S30= Gathering, selecting information
S31= Acquiring information
S32= Organizing information
S33= Storaging / retrieving information
S34= Referring information
S35= Discarding information
S36= Producing information sources
S37= Abstracting
S38= Systematic search of literature
S39= Systematic review of literature
S40= Information consolidation
S41= Selective dissemination of inform.
S42= Current awareness services
S43= Value-adding techniques
S44= Information system operation
S45= Database design and operation
S46= Network operation
S47= Design, development and marketing of information goods and services
S48= Technical reports
S49= Information measurement
S50= Assessment of information needs, dynamics and impact
S51= Cost-benefit/effective analysis
S52= Conceptual analysis
S53= Linguistic services

INTELLECTUAL

S54= Modelling states and processes
S55= Undertaking independent research
S56= Understanding and evaluating research produced by others
S57= Monitoring research activity and results in the area
S58= Fostering knowledge diffusion and assessment among specialists
S59= Super-learning
S60= Meta-learning

IPU

Fig. 6: The information service context

INFORMATION SERVICES				
TYPE	ACTIVITIES		L	PRODUCTS
(Public) LIBRARIES (General and specialized)	Selection Gathering → Organization → Storage → Reference Acquisition Retrieval Discarding ← Utilization ← Loan ←		Basic	C: References F: Catalogs, bulletins, leaflets M: Paper, magnetic media, on-line, microfilm
DOCUMENTATION CENTERS	Bibliography production Indexation Reviews and abstracts Document diffusion and commutation		Primary	C: Bibliographic information F: Bibliographies, Indexes, Abstracts, Reviews, DBs M: P. MM. O-L, Mf
INFORMATION CENTERS	Systematic search of documentation / information Systematic literature review Information consolidation Technical analysis of documents / literature Selective dissemination of information Current awareness services Linguistic services		Secondary	C: Information, Document information, analysis of content F: Data/information packages, reports, bulletins, leaflets, Clearing-house service, DBs, dossiers M: P, MM, O-L, Audio-visuals
INFORMATION SERVICE	VALUE-ADDING: Data → Information	Display, format, Classification, etc.	Information system operation & devel.	Tertiary	C: Data, information, knowledge, intelligence F: Data/information/knowledge packages, Intelligence reports M: Information systems, P, MM, AV
	VALUE-ADDING: Information → Knowledge	Validation, evaluation, synthesis			
	VALUE-ADDING: Knowledge → Intelligence	Options, advantages, disadvantages, etc			
	VALUE-ADDING: Intelligence → Action	Decision making, negotiation, etc.			
RESEARCH UNIT (Organization specific)	Forecast reports / Market research Informetric and scientometric analysis Terminological research Analysis of information needs and flows Analysis of information impact Conceptual analysis of documentation / literature / area of knowledge		Advanced	C: Knowledge, intelligence F: Research reports, technical reports, scientific documentation M: IS, P, MM, AV

IPU

The fourth frame of action is identified under the label of KEY PROFESSIONAL ASSETS. As shown in Table 4, it contains a number of **personality values** and **functional skills** upon which there is a great deal of professional agreement regarding their power for job enrichment and work impact. These assets (which the dictionary defines as a useful or valuable quality or thing) are the professional's resources; as such, the depend on the nature of the niche and, their utilization, on the context defined by the other frames of action. Furthermore, they provide the elements needed to structure the role. The attributes and skills listed in Table 4 are obviously more appropriate to those professional niches centrally related to the processing and servicing of information, whose range of service units, activities and products are described in Figure 6.

However, comparable attributes and skills can also be identified for the other niches. The value component basically favors the image of a contemporary personality; its purpose is to ensure that an organization would not only have a technical asset but also a human one, a person with constructive expectations and beliefs. The functional skills component, which accounts for the technical side of the asset, includes six main sub-components:

1 Communication (the abilities to exchange, transmit and express ideas)
2 Socialization (the abilities to interact and work productively with/for others)
3 Management (the abilities to direct and guide a group in completing tasks and attaining goals)
4 Instrumental (the abilities to make an efficient use of tools and methodologies)
5 Technical (the abilities to conduct a group of processes for the generation of competitive goods and services), and
6 Intellectual (the abilities to search, use, and transform knowledge).

The strategy implied by the model described is one by which a professional should not just react to what the labor market may offer to him/her, but, instead, should make the labor market react to an offer he/she intends with that purpose. It therefore calls for a more proactive attitude towards professional action, based also upon the fact that successful professions are those which shape the demand and create their own opportunities, not just use them. Opportunities come up when customized (i.e., well "contextualized") answers are given together with assurances for competitive, value-adding, difference-making work. Obviously, the approach stresses the profession as an individualistic endeavor; the more groupalistic a professional offer is the more likely it is to receive a conventional response from employers. Professionals should not be trained to offer more of the same but a particular mix of new things to promote better employment.

The contextual interest that the model emphasizes intends to correct what we consider one of the gravest deficiencies of traditional professional education in information: its tendency to favor technical training directed to specific service environments rather than to areas of organized social activity and of dynamic exchange of knowledge. According to such orientation, professionals are trained for archetypical public library, documentation centre or archive unit, or for handling national information sources. The working context would eventually be one of accidental character, one in which the professional had the chance to stick. In the same order of ideas, the traditional educative approach does not provide a holistic view of the information opportunity nor does it facilitate the possibility for the professional to have a strategy allowing for his/her navigation through the information environment in search of such opportunities. The more such independence is ensured to these professionals, the less others would perceive it as a technical career. A profession without strategies to ensure its growth in the labor environment is destined to liquidate itself.

Thematic points of view

As part of the personality values making up the Key Professional Assets frame of action we have included one defined as **Thematic point of view**. It is convenient to explain why this value carries a special meaning for professional role modelling. A TPV refers to a particular idea (or group of them), which is strongly believed by the individual and which provides him or her with doctrinaire direction for assuming professional positions, undertaking viable challenges and achieving competitive results. The doctrinaire character relates to the personal intellectual attachment to a particular interpretation of a given phenomenon or problem, or to a priority line of work. Regarding the information profession, we conceive that four TVPs are currently prevailing:

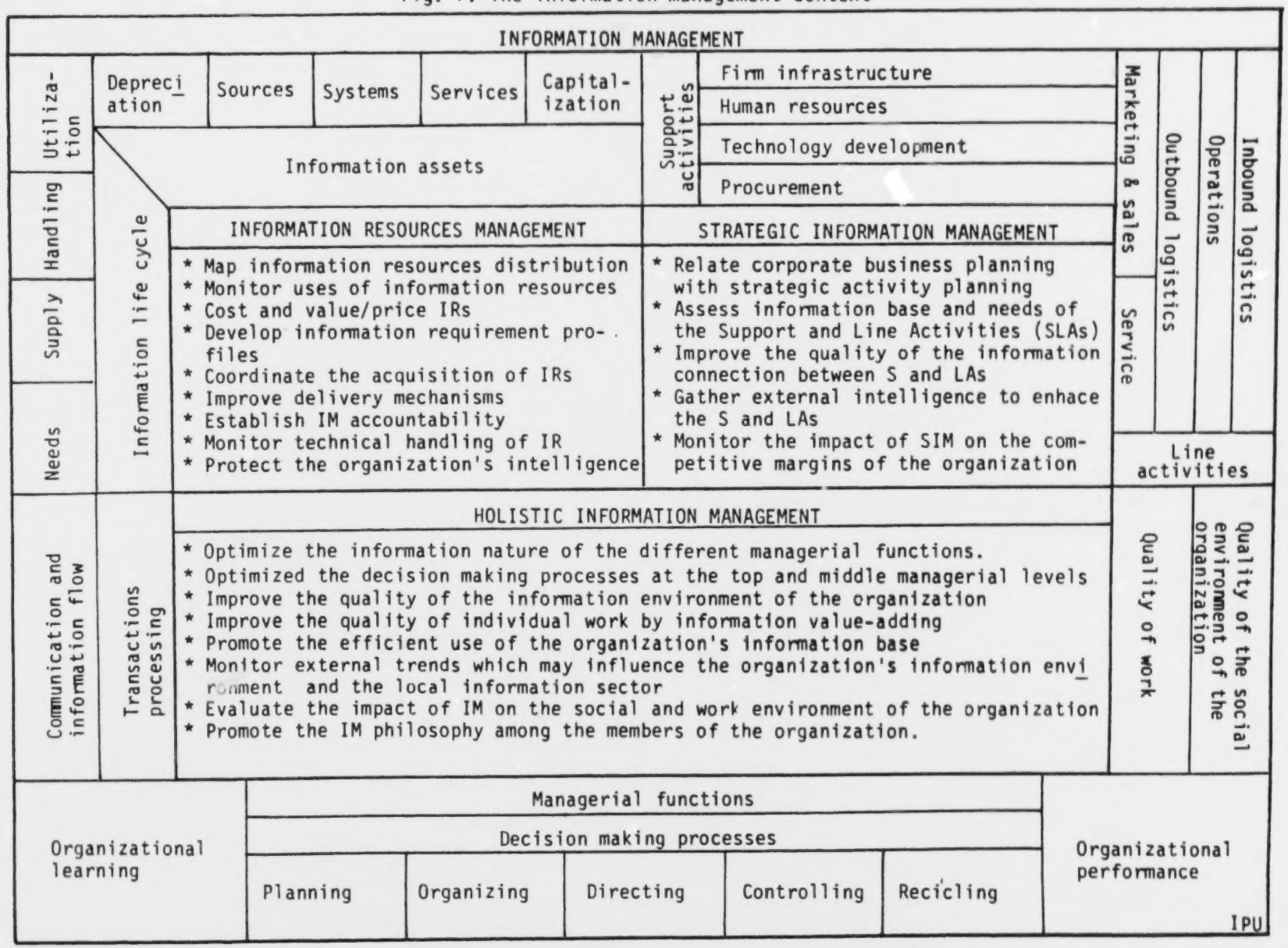
a. SOCIAL INTELLIGENCE MANAGEMENT: Using information for social action, that is, to add value to the different activities and goods produced by a national community[12];
b. TECHNOLOGICAL LEARNING: Strengthening the information support required by the process of technological expansion (diffusion, dissemination, transfer, appropriation, assimilation and reinduction) in developing societies[14];
c. ORGANIZATIONAL OPTIMIZATION: Managing information to increase the effectiveness of governmental and productive organizations and to promote the capitalization of work; and,
d. INFORMATION SCIENTIFICISM: Focusing on information phenomena to increase systematic knowledge of its nature, its dynamics and its implications for social and non-social processes and environments.

In the past, TPVs were correlated to the official philosophies sustained by UNESCO as UNISIST (i.e., Universal exchange of scientific and technological information for development) and NATIS (i.e., Basic information provision for the people). We have advocated the first three as the key directions for professional information work in Latin America today; the fourth we have endorsed more as a direction proper to academic concern[15], but we know a number of acting professionals who perceive their work as an expression of a scientific interest.

A particular TPV may itself be correlated with different "positions" or focuses. The best illustration for this can be found in the case of **information management** (IM), which we have defined as a niche of its own. It happens that IM, in our opinion, may imply three different approaches: HOLISTIC IM (the optimization of the information environment of organizations in the public and private sectors), STRATEGIC IM (the enhancement of the information value and impact of particular organizational functions), and INFORMATION RESOURCES MANAGEMENT (the efficient administration of the organization's information assets)[16].

Depending upon the approach, different functions and processes would attract the specialist's interest. Figure 7 attempts to represent the range of these functions and activities and their relationship with each of the three approaches. As shown, in the case of HIM the managerial culture, work style and social interface of the organization will be taken as the main concerns. In the case of SIM, the impact of particular organizational functions on productivity, as the relation has been perceived by M.E. Porter through the "value chain" concept[17]. In the case of IRM, the utilization, mobilization, capitalization and depreciation of the organization's information means. A mix of the three approaches is possible and useful when a decision is made to implement the IM concept in a given institution[18], particularly in one willing to experiment with the possibilities it offers. Those who advocate this kind of treatment are called **"informationalists"**, in opposition to those who advocate a treatment essentially based on the establishment and operation of a computerized environment for handling information activities,

Fig. 7: The information management context


INFORMATION MANAGEMENT
Utiliza-tion
Depreci ation
Sources
Systems
Services
Capital-ization
Information assets
Support activities
Firm infrastructure
Human resources
Technology development
Procurement
Marketing & sales
Outbound logistics
Operations
Inbound logistics
Handling
Supply
Needs
Information life cycle
INFORMATION RESOURCES MANAGEMENT
* Map information resources distribution
* Monitor uses of information resources
* Cost and value/price IRs
* Develop information requirement pro-files
* Coordinate the acquisition of IRs
* Improve delivery mechanisms
* Establish IM accountability
* Monitor technical handling of IR
* Protect the organization's intelligence
STRATEGIC INFORMATION MANAGEMENT
* Relate corporate business planning with strategic activity planning
* Assess information base and needs of the Support and Line Activities (SLAs)
* Improve the quality of the information connection between S and LAs
* Gather external intelligence to enhace the S and LAs
* Monitor the impact of SIM on the competitive margins of the organization
Service
Line activities
Communication and information flow
Transactions processing
HOLISTIC INFORMATION MANAGEMENT
* Optimize the information nature of the different managerial functions.
* Optimized the decision making processes at the top and middle managerial levels
* Improve the quality of the information environment of the organization
* Improve the quality of individual work by information value-adding
* Promote the efficient use of the organization's information base
* Monitor external trends which may influence the organization's information environment and the local information sector
* Evaluate the impact of IM on the social and work environment of the organization
* Promote the IM philosophy among the members of the organization.
Quality of work
Quality of the social environment of the organization
Organizational learning
Managerial functions
Decision making processes
Planning
Organizing
Directing
Controlling
Recicling
Organizational performance
IPU

or **"informaticists"**. It is not really a matter of one gospel vs. another, but, by taking an ideological side, an enriching and very much needed discussion of professional goals and attitudes is favored among those involved.

Finally, a TPV is also commonly influenced by the label one is given by the job market, or one gives oneself to identify one's professional designation and orientation. Job advertisements may use labels such as "Information officer", "Information specialist", "Information manager", "Information analyst", and so on. The meaning will depend on the employer. In theory the niche will suggest the most adequate designation (e.g., Communication engineer, Information service manager, Librarian). It seems that, for the time being, the generic designation of **information specialist** will have to cover the areas above those occupied by the librarians, the documentalists and the archivists, particularly those related to specialized information work, information systems design and development, information management and knowledge management. Successful professional practice will contribute to establish the most convenient labels in the long run.

Educating the new information professional in Latin America: Inhibitors and facilitators

The idea guiding this paper is not in itself a complicated one. In principle, it says that the new information professional has to compete with other information professionals if he or she wants to have opportunities and advantages in a market that is not looking for more of the same but, as B. Cronin points out, for "developers", "constructors", and "craftsmen"[19]. To complete, the new information professional has to be different on one or more of the following dimensions:

- Function and product range
- Innovativeness
- Work quality
- Customized service
- Scope and focus
- Work costs
- Personal image
- Knowledge contribution

These are very much the same dimensions along which modern organizations compete. There is an industry employing people with such features. Says Cronin: "The industry is difficult to define with any degree of precision; accurate figures on its dimensions are hard to come by; its workforce is heterogenous in the extreme (in terms of disciplinary and its professional backgrounds). However, it is absorbing a growing number of graduates from information studies programmes and it is likely to constitute a major source of future employment. But the schools of information studies and information management will have to tailor their programmes and output to the particular needs of this market"[19].

As a matter of fact, the schools have to do better than that, for -as we have stressed- they will have to train professionals who will create new jobs, not just fill old ones, and this implies that the market has to be transformed to understand and utilize a new professional offer. On the other hand, there is strong evidence that the government will compete with the private sector for the new professionals, and, also, that there will remain a permanent need for librarians, archivists and documentalists. In one thing Cronin's statement results contradictory: he mentions a "growing number of graduates from information studies programmes" but it is well known that many schools in the field have been closed down in the last ten years, particularly in the US and the UK.

In the first part of this paper we gave an indication of the state of the undergraduate education in Latin America regarding librarianship. The programmes contacted may be the ones in most critical conditions in the region, but the majority of them are the only ones available in most of these countries and, as the results have shown and with the exception of four or five, these programmes are not doing well. In general, budget limitations and low student demand are mentioned as the main causes of this situation. In our opinion, the main problem is that these programmes are not attracting candidates who, as professionals, would like to fly high, or that they do not have anything to offer to those who do. Therefore, the first thing the professors of such programmes must do is to come up with a sincere picture of what is happening in their schools before they agree on a strategy to change...or to disband.

It is not easy to convince university teachers to sit around a table and discuss to arrive at some level of usable consensus. Our experience is that our colleagues believe that most problems can be solved if an updated profile of the profession is worked out, and, consequently, the right curricular modifications introduced. And yet, the problem is not really one of curricular design, it is one of vision. Nowhere but in the library and information field is the vision so poor: it is the only profession which is trained to go along with buildings ("Librarians" for "Libraries", while "Physicians", are not conceptually trained for "Hospitals" but rather for "Health"). And more of a problem is that many of these colleagues do not feel they need a vision any different from a theoretical one, in which the educational dimension is taken care of from a traditional viewpoint and the professional action dimension is ignored. We have tried elsewhere to integrate both dimensions in one model in which, by the way, the capability for independent second-order learning (or "deutero-learning") has been emphasized[9]. Reaction to this model has been mixed: some do not understand it, and, again some do not see the need of it. Among the latter one could find those colleagues who honestly think that "hypertext" is more powerful an asset than this vision-thing.

It is not possible to determine the extent to which local graduate education is helping to shape a better immediate future for the profession. The mission of this education seems heavily focused on providing credentials for professionals who tend to assume graduate education as "post-undergraduate" education. With undergraduate programmes in trouble, it is highly difficult that a public university in Latin America will embark itself in opening graduate programmes that would have to subsidize themselves. On the other hand, a number of colleagues can only think of graduate education as to train doctoral-level researchers. They are also earnest in believing that the state of the profession is caused by the low level of research capacity of its members. And yet, a researcher is not useful in the region except as a university professor. Training a researcher instead of a competent practitioner is a costly distortion.

To train a new information professional educators would have to agree on a vision, not "one-vision", and would have to stop thinking in terms of "service fillers" and start thinking in terms of "niche creators" and, even, "niche outgrowers". What has to be done requires the help of new agents. We envision that these new agents are six:

Private or experimental universities;
Outstanding information service units;
Companies in the information sector;
Interest groups;
Leading private organizations; and
Key government institutions.

As can be noticed, both public universities and professional associations are being bypassed, for the former are not able to change as quickly as needed, and the latter are languishing, at least in Latin America.

Private or experimental universities could offer new modalities at the undergraduate level (such as a three-year college education with a two-year terminal education in one area of information and communication work), and graduate programmes of two years of duration in strategic aspects covered by the different professional niches. Short specialized courses can also be designed and marketed by top information units and companies in the information sector to promote themselves and to offer an extra lucrative service. Interest groups can be established as informal colleges to analyze professional trends and developments. Leading private companies and government institutions can design special training programmes for their personnel and monitor the impact of this training on work performance and productivity. The managers of these organizations react positively when told that rather than a compound of administrative units, an organization is a compound of information units, and that information is the main tool to capitalize work and ensure success. Information goes well with the "Total Quality" philosophy, and organizations are paying for their employees to attend courses in which this philosophy is explained.

On the other hand, other support actions are required. Formal research programmes in information, communication and knowledge are to be established in centres of educational excellence, and public and private funds should be channelled to carry out a portafolio of priority projects. Information consulting has to find its way as a business activity, together with the commercialization of new or distinct information products and services. Professional communication (not necessarily academic communication) has to be established and sustained by means of newsletters, electronic mail and boards, periodical meetings. Fortunately, in the great majority of Latin American countries (as well as in many other countries of the developing world) actions like these have begun. The task is to look for facilitators to dispell the confusion and pessimism and so start changing things.

More than a "modern" information professional we need a "new" information professional, or even "information professionals" as such, if we take at heart that what we have had so far are librarians, archivists, area specialists, computer and system engineers, information analysts, etc. Indeed, what we need in Latin America today is "information professionals for modernity" since, it can be argued, as society it seems that we have jumped from pre-modernity right into post-modernity, without experiencing the connection.

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2. It is believed that there are 62 undergraduate programs for training information professionals in Latin America, 36 of them only in Brazil (24) and Argentina (12); 14 graduate programs are also believed to exist. The number of students enrolled in the 18

programs contacted was 2,522. An estimated total enrollment for all the programs in Latin America by 1990 may be around 8,000 students, or 0.13% of all university students then enrolled.

3. Regarding the faculty, a total of 351 teachers was identified. Of these, 68% were females, 58% were employed part time and their average age was 42.4 years. The average annual salary for full time teachers approached 6,802 US$ (1,200 US$ for part timers). Based on a sample of 242 teachers, 65% reported having an undergraduate degree in library and information sciences; 24% reported having a graduate degree in the field.

4. By "emerging information work market" we mean the opening of new job opportunities, in the public as well as in the private sector, which involve new competitive capabilities required of the candidates for the optimization of the information activities of an organization and the adding of value to the goods and services it produces, thus ensuring better remuneration (and professional development) than traditional jobs in the field. See by the author, Mercado informacional emergente y perfiles de profesionalización para América Latina, in: *Información para el progreso de América Latina.* (Caracas: Congreso de la República/Universidad Simón Bolívar, 1990).

5. *La infraestructura de la información para el desarollo. América Latina y el Caribe.* Santiago: UNO/CEPAL, 1981.

6. These competencies were identified on the basis of a study carried by B. Cronin (*The education of library-information professionals: a conflict of objectives?* London: ASLIB, 1982) and related to the analysis of jobs advertised in British newspapers.

7. J.-M. Griffiths and D.W. King. 1986. *New directions in library and information science education.* White Plains, N.Y.: Knowledge Industry Publications.

8. An example following this criteria is provided for the specialized function defined as "Information service management" in the study mentioned in 4, above.

9. See, by the author, Un modelo para la transformación de la educación de los profesionales de la información en América Latina. Included in the book referred to in 1.

10. See, by the author, National information policy and modernization of development: A redefinition of information professional in the Third World from the point of view of education and social action (Paper presented at the FID/ET Seminar of La Habana, 1990). A Spanish version is included in the book referred to in 1.

11. In 9 we provided a definition for all these niches except **Information services management** (The planning conduction and evaluation of information services to increase their efficiency in the support of the national activities for socio-economic and cultural development), **Specialized information work** (The utilization of the principles of information science to analyze, model, measure information processes and products and to generate research intensive goods), and **Information systems design and development**, which is self-explanatory.

12. See, by the author, Gestión de la inteligencia social. Included in the book referred to in 1.

13. The different activities associated with each effector are specified in the monograph "Modelo de gestión de la inteligencia social para la modernización del desarrollo en Venezuela", by M. Camacho L. et al. (Caracas: Universidad Simón Bolívar / Postgrado en Estudios de la Información, 1992).

14. See, by the author, El trabajo informacional en la perspectiva de la gestión de la tecnología y del aprendizaje tecnológico para el desarrollo. Included in the book referred to in 1. See also by W. Crowther. The education and training of information specialists to facilitate constructive technology transfer to and among developing countries (Paper presented at the FID/ET Seminar of Montreal, 1986).

15. An initiative taken in this direction is the creation of an Institute for the Study of Knowledge (uNESCO) at Simón Bolívar University in Caracas. By definition, the mission and essential purpose of a university is the generation, processing and transfer of knowledge, but the phenomena involved are largely unknown by our institutions. UNESCO will particularly pay attention to the formulation of models and the development of technology for human and cybernetic information processing and its conversion to knowledge, knowledge semiotization, the knowledge-language-learning-intelligence relationship, the organization of knowledge and the creation of knowledge-based systems, the theory and practice of terminology, and the management of knowledge creation and dissemination. The institute hopes to ensure an interdisciplinary environment for internal and external research projects.

16. For a representation of a version of HIM, see, by the author, La gestión de la información y su importancia para el incremento de la efectividad de las organizaciones públicas y privadas en el Tercer Mundo, included in the book referred to in 4. For SIM, see by E. Davenport and B. Cronin, Strategic Information Management: forging the value chain, *International Journal of Information Management*, 8 (1988), pp. 25-34. For IRM, see by F.W. Horton Jr., *Information resources management. Harnessing information for productivity gains in the office, factory and laboratory* (Englewood Cliffs, N.J.: Prentice Hall, 1985), and by C.F. Burk Jr. and F.W. Horton Jr., *Infomap. A complete guide to discovering corporate information resources* (Englewood Cliffs, N.J.: Prentice Hall, 1988).

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18. See, by the author, Academic and institutional implementation of the information management concept: an experience at Simón Bolívar University (Paper to be presented at the FID/ET Seminar of Madrid, 1992).

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Section I: North America

INFORMATION INTRAPRENEURING AND ENTREPRENEURING

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ABSTRACT: Some librarians and information specialists act as intrapreneurs while working within existing organizations. Other librarians and information specialists function as self employed entrepreneurs unattached to any library or organization. Few students learning how to become librarians or information specialists are exposed to concepts of intrapreneurship or of entrepreneurship.

Introduction

All people in all countries agree that library and information services cost money. Information is never "free": information must be gathered and organized before it can be used.

Sometimes the government pays for the gathering and organizing by creating national libraries and data banks. Sometimes costs of creating a library or data bank are borne by a city, a village, a university, a school, an industry, a private firm, or some other entity.

And yet even though access to these information collections appears to be "free" to users, someone has paid.

The individuals who do the work of creating libraries and information services, and who provide the necessary link with the users, are the librarians or information specialists.

Most librarians and information specialists are paid directly by the entity responsible for creation of and care of the library or data bank. Services provided by these librarians and information specialists appear to be "free" to users.

However, in 1992, increasing numbers of professionals in the library and information worlds are becoming involved in schemes wherein the specific receiver of information, the user, directly pays for information received.

This paper discusses three issues closely involved in payment by users for access to information.

1) Some librarians and information specialists act as *intrapreneurs* while working in existing organizations.

2) Other librarians and information specialists function independently as self-employed *entrepreneurs* unattached to a formal library or organization.

3) Few *students* learning how to become librarians and information specialists are exposed to concepts of intrapreneurship or of entrepreneurship.

Over the years, as intrapreneuring and entrepreneuring have become more common, both intrapreneurs and entrepreneurs have, in the English language, become to be called "information brokers".

Intrapreneurship

"Intrapreneurship" occurs within an organization which happens to have a library or information bank.

There are at least three broad categories of intrapreneurs evident today:
1) charging back,
2) charging out, and
3) charging fees.

Charging back is a manner of accounting for money within the organization.

In some universities, for instance, when a book is bought for the library about engineering or chemistry or history, the cost of that book is charged back to the engineering department or the chemistry department or the history department; the cost of that book does not come out of the library's budget.

In many special libraries, services performed by librarians are charged back to the individual, the department, or the project which requests the service. Says one special librarian: "75% to 80% of our time is charged back, and by doing this we 'recover' the entire budget for our library."

When charging back, no one sees the money: money is accounted for by the accounting department.

Charging out happens when librarians' services become part of what is delivered to, and is paid for by, an organization's client.

When a client seeks service from a law firm, an accounting firm, or an advertising agency, that client primarily seeks legal services, accounting services, advertising services. In process of providing those services, librarians and information specialists may assist the lawyers, the accounting executives, the advertising advisors. When payment is received from the client, part of what is being paid for is library/information service.

In some organizations, both charging back and charging out occur. Says one librarian, "I can't even pick up a telephone without knowing how to charge what I'm doing."

Charging fees is what happens when an organization's library, or fee-based branch of the library, has customers or clients of its own to whom fees are charged for information services.

In the U.S. and Canada, increasing numbers of university libraries charge fees to those who are not students or teachers at the university. For instance, over 30 years ago, a far-seeing U.S. state governor thought it would be good for his state to have business information readily available to his state's businesses: in 1964, the state university library's fee-based service got 539 requests from businesses within the state, in 1986 they got 20,000, in 1992 figures are even higher.

Some U.S. public libraries have established fee-based division, often primarily for long and complicated online search services. Public library examples: Minneapolis, Minnesota; Cleveland, Ohio; Tulsa, Oklahoma.

Beginning quite recently, fee-based service units are being established at professional associations. At the American Bankers Association, the fee-based service is called "Center for Banking Information". For-a-fee library/information service is offered by the American Trucking Association, by the American Institute of Certified Public Accountants and many others. Usually there are two fee schedules: one for association members and another (much higher) for non-members.

Medical libraries often offer fee-based services to "non-affiliated outsiders". Fee-based service usually involves searching the medical-specific online database.

Entrepreneurship

"Entrepreneurship" occurs when a librarian or information specialist is self-employed. An entrepreneur is not employed by or paid by an existing library or information bank. The entrepreneur's money comes directly from each entrepreneur's customers and clients, who are the information users.

What do entrepreneurs do? The breadth and variety of activities are astonishing. Entrepreneurs are...:

> searching online, retrieving documents, organizing files, creating archives. They are publishing books, newsletters, directories, and guidebooks. They are writing manuals and instruction books. They do indexing and abstracting. Others are teaching, coaching, and creating online lessons. Some clip newspapers, others provide electronic-altering or current-awareness services. Some provide travel information while others travel as couriers.
>
> Entrepreneurs are building special libraries from scratch, and are serving existing libraries - doing everything from barcoding to cataloging to space planning. Some organize conferences, others tape them, and still others edit the proceedings. Some convert electronic data to paper and others from paper to disk. There is weeding and filing and labeling going on. Some substitute for absent personnel while others act as personnel consultants and consult on everything from buildings to computers to budgets. [From pp. 9-10 of *Mind Your Own Business* - see "Selected Information Sources" at end of this article.]

The number of information entrepreneurs grows rapidly from year to year; there are probably between 1500 and 2000 worldwide now, in 1992.

Education and the future: intrapreneurship and entrepreneurship

What do intrapreneurial and entrepreneurial trends mean to library/information educators? What should teachers teach about intrapreneurship, about entrepreneurship? How must training for library/information work adapt? What should our students learn?

1. In any intrapreneurial or entrepreneurial situation, actually *doing the library/information work is the easy part*. We are already training students to be efficient and effective as librarians and as information specialist, and we must continue so to do. What students need to learn are skills additional to those they are already learning.

2. *Managing the business is the hard part*, and is what educators must stress.

   Intrapreneurs and entrepreneurs are involved in business. Business is money. Money must be managed. Intrapreneurs and entrepreneurs must like money, must like to discuss it, forecast it, budget it, analyze it, collect it, understand it.

   Being involved in business means that intrapreneur and entrepreneur must become and remain vitally interested in the clients, in those who buy - and this interest must be as great as or greater than interest in library/information work *per se*.

3. Intrapreneurs and entrepreneurs must *know their goals*, must be clearly and completely aware of what these goals are.

   The goal of the fee-based service at a public library of a large U.S. city is to bring in enough money to pay the salaries of the three people running the fee-based service, plus 35% of those salaries: this fee-based service does not have to bring in money to pay for heat, light, space, etc. The goal, salaries plus 35%, is a matter of dollars and cents: these three fee-based staffers can easily measure their progress against this goal.

   Another fee-based service, this one in a university, has two goals. The first goal is to recover all costs of running the service - in their case, USD 10,000 per month. The second goal is related to two missions of the larger university: to remain on good terms with those who live nearby to the university, and to remain on good terms with those who used to attend the university. The university library is designed to serve current teachers and students only: by creating a fee-based service, neighbors of the university and alumni of the university can now be served.

   Entrepreneurs, too, must set goals, and must at all times be able to measure themselves against these goals. A hard lesson for entrepreneurs to learn is that merely being busy does not necessarily mean that they are being profitable. An entrepreneurship is a business: if the business does not reach its profit goal, the business fails.

   Intrapreneurs and entrepreneurs alike worry about fees, about how much to charge for their services; typically, there is much interest in "what other people charge". However, fees must be set not according to what others charge, fees must be set according to goals. To decide what the fee should be, this question must be answered: if the goal is to clear USD 10,000 a month, how much work at how many dollars per hour must be sold each month to meet this USD 10,000 goal?

4. Intrapreneurs and entrepreneurs must *know how to sell*, and to sell effectively must be able to talk about what they do in easy, simple language. Librarians and information specialists are notoriously bad at talking simply. We use jargon and abbreviations and computerese, we talk to each other in varieties of information-shorthand.

   Intrapreneurs and entrepreneurs must sell what they do to customers, and to sell successfully must talk the customers' language. Customers don't want "a broad spectrum online sweep, date, format and other Boolean restrictive concepts applied, downloaded and checked for duplication." Customers simply want answers to questions.

Summary

In today's increasingly complicated world, some librarians and information specialists act as intrapreneur within existing organizations: activities include charging back, charging out, and/or charging fees.

Still more librarians and information specialists are becoming entrepreneurs, selling all manner of library/information services to clients and to customers.

Those who teach library and information science must help prepare students for possibilities of intrapreneurship and entrepreneurship.

This teaching must happen: at some point in most students' careers, intrapreneurship or entrepreneurship will, one way or another, become an issue.

Students must learn that actually doing the library/information work will be easy; harder will be managing the business of intrapreneuring, of entrepreneuring. Goals must be set, must be articulated, and must be used as guidelines.

Finally, students must learn how to sell and in so doing must be able to talk about library service and about information service in clear, easy-to-understand language.

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Intrapreneurship

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Alice Sizer Warner, "Information Brokering: state of the art", *Wilson Library Bulletin*, April 1989, pp. 55-56.

Intrapreneurship: charging out, charging back

Alice Sizer Warner, "Charging out, charging back, charging fees", *The Bottom Line*, vol.4 no.3, fall 1990 pp. 32-35.

Walter E. Doherty, "How to turn a library into a profit center: the law library example", *The Bottom Line*, Vol.2, no.4, winter 1989.

Fee-based services in libraries: an organization and a directory

FISCAL (Fee-based Information Service Centers in Academic Libraries) is an American Library Association group which meets twice a year, at ALA annual and mid-winter meetings. Details: ALA, 50 E.Huron St., Chicago IL 60611, USA.

The *Fiscal Directory of Fee-Based Services in Libraries* is available from The American Library Association, 50 E. Huron St., Chicago IL 60611, USA. This directory details services and current prices for over 500 fee-based library services both within and outside of the United States.

Fee-based services in libraries

Alice Sizer Warner, *Making Money: Fees for Library Services*, Neal-Schuman Publishers, 1989. Available only from Neal-Schuman Publishers, 100 Varick St., New York, NY 10013, USA. This is a how-to manual for librarians exploring issues involved in charging fees, charging back and charging out.

Scheduled for 8-10 October 1992: Third International Conference on Fee-Based Services at Sheraton Tempe Mission Palms Hotel, Tempe Arizona USA. Program officer: C. Brigid Welch, Office of Management Services, Association of Research Libraries, 1527 New Hampshire Ave. NW, Washington DC 20036, USA, 202-232-8656. Proceedings will be available.

Fee-based services: academic libraries

"FISCAL primer" is a collection of academic fee-based services' brochures plus a checklist for setting up such a service. USD 10 from Lee Anne George, Gelman Library Information Service, George Washington University, 2130 H. Street NW Room B07, Washington DC 20052, USA.

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Fee-Based Services: Issues and Answers: Second Conference on Fee-Based Research in College and University Libraries, proceedings of the 10-12 May 1987 Conference at Ann Arbor, Michigan. Available from MITS, Harlan Hatcher Graduate Library, University of Michigan, Ann Arbor, MI 48109 USA.

Fee-based services: public libraries

Steve Coffman & Helen Josephine, "Doing it for money", *Library Journal*, 15 October 1991, pp. 32-36. Describes the fee-based service at California's County of Los Angeles Public Library.

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Alice Sizer Warner, "Special libraries and fees", *Special Libraries*, Fall 1989, pp. 275-279. Current situation **re** fees, planning, selling.

Arthur Downing, "The consequences of offering fee-based services in a medical library", *Bulletin of the Medical Library Association*, January 1990, pp. 57-63. Discussion of fee-based services at New York Academy of Medicine Library.

Entrepreneurship: a directory and a newsletter

Helen Burwell, *Directory of Fee-Based Information Services*. Available annually from Burwell Enterprises, 3724 FM 1960 W. Suite 214, Houston, TX 77068. The 1992 edition lists over 1253 information services in the U.S. and abroad by company name, key personnel, subject/service, and geographical location.

Information Broker, a bi-monthly newsletter, is also published by Burwell Enterprises. Covers information entrepreneurship internationally.

Organizations for entrepreneurs

Association of Independent Information Professionals (AIIP), was founded in 1987. AIIP's newsletter keeps track of information entrepreneurs' activities worldwide. Current president: Janet Gotkin, InfoLink, P.O. Box 306, Montrose NY 10548, USA, 914-736-1565, FAX 914-736-3806.

Two articles about AIIP by Alice Sizer Warner are:

- "AIIP: Partners in Information", *Wilson Library Bulletin*, May 1992, p.14. Describes AIIP's 6th annual meeting.
- "Information brokers legitimized", *American Libraries*, June 1989, pp.615-616. Information brokers now have their own Standard Industrial Classification (SIC) code: 7375.

ILERT (Independent Librarians' Round Table) is part of the American Library Association. Self-employed librarians meet twice a year at ALA mid-winter and annual meetings. Information from ALA, 50 E. Huron St., Chicago IL 60611, USA.

Consultants' Section, Management Division, Special Libraries Association. Self-employed librarians meet once a year at the SLA annual meeting. Information from SLA, 1700 18th St. NW, Washington DC 20009, USA, 202-234-4700.

Information New England is an example of a very informal regional group of information entrepreneurs (and a few intrapreneurs) who meet several times a year for a shared meal and exchange of leads, tips and moral support. Visitors always welcome. Details from Alice Sizer Warner or Fae Hamilton, 67 Old North Road, Carlisle MA 01741 USA, 508-369-1981. There are similar groups in many USA areas, including New York City, Washington DC, and the San Francisco Bay area.

Entrepreneuring

Sue Rugge and Alfred Glossbrenner, *The Information Broker's Handbook*, TAB/Windcrest/McGraw-Hill, 1992.

Alice Sizer Warner, "Fees for service: state of the art", *Wilson Library Bulletin*, April 1989, pp. 55-57.

Alice Sizer Warner, "Information consulting - setting up the business", *Online*, January 1988, pp. 20-23.

Alice Sizer Warner, *Mind your own business: a guide for the information entrepreneur*, Neal-Schuman Publishers, 1987. This book gives practical, how-to suggestions; included are listings of information sources and a bibliography. Emphasis on selling, money. Available only from Neal-Schuman Publishers, 100 Varick St., New York, NY 10013, USA.

Section I: Europe

THE INFORMATION PROFESSIONAL IN DENMARK[1]

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Introduction

The Information Professional (IP) is a term of recent date. In the early 1980s, it emerged among American and British Librarians, and librarians at the continent were quick to adopt the new term. A true global economy and an ubiquitous information technology were rapidly taking hold of the Western economy, and the IP was developed among librarians to meet the changes, challenges, and demands of a radically changing world. During the eighties every other group of professionals, and actually the working force as a whole, acted accordingly, too.

The actions taken by the librarians were part of a general pattern of exchange, and they were only unique seen from the inside of the library-world. That explains why very few other people than librarians, even today, would be aware of the existence or the meaning of the term IP. And it must be noted that everybody is reacting to the same trends of development which brought and brings information technology and scientifically based information and knowledge to the forefront of Western economy. An industrial economy is moving towards an information economy, and as a consequence, boundaries of industries, markets, and qualifications are being blurred, followed by integration and convergence. It is an open and rapidly changing world that is taking on new characteristics. The meaning and practice of the IP must be understood against this turbulent backgrounds. That applies for every advance economy, including Denmark. An idea of these changes may be seen from the following trends.

In the 1980s, the Danish Government for the first time decided upon a general, active policy for the relationship between the public and private sectors. The public sector, producing more than half the national product, was turned into an active partner for the private sector in order to strengthen the competitiveness of the Danish economy in world perspective. Every part of this large Danish public sector was gradually changed and made part of an overall economic policy that introduced priorities. Modern technology, like information technology was given highest priority, later on followed by a general lift to basic research, and young people was urged to choose business or technological studies. Business methods were spread and a minor part of public companies was privatized. The large public welfare and service sector was meant to function as efficient as private companies, partly by working on the premises of the open market, and partly by bending towards the interests of the private sector. Management systems were introduced in all parts of the public sector, based on information technology and on business methods, to make this strategy come true.

In the 1980s, the character of work organizations and the economic environment in general were radically changed, too. Information technology and an internationalized economy based on scientific knowledge took the lead. Production and administration were automated, including some parts of the internal and external lines of communication. The world of competitors and customers, and the world of public regulations became still more complex and turbulent. Flexibility and adaptability towards a changing world were the key words for any company.

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[1] Time has not allowed me to coordinate this report with other Danish information scientists. Therefore, it represents my personal view of the state-of-art. I have tried to underline the broader social context, corresponding to the predominant approaches of my department.

Organizations became "flatter" and dropped the traditional bureaucracy. Professionalized marketing and product development grew as part of a tendency to professionalize more and new fields of work. Management and personnel had to come up with higher and broader qualifications (Christensen, Danmark på vej mod år 2000; Christensen, Arbejderbevægelse og informationssamfund; Christensen, Historical Trends).

In the 1990s, these changes have become even more profound and visible. A vital part of this development is an accelerating production and use of scientific knowledge and professionalized information. That is where the Information Professional enters into the picture.

Definitions

The Information Professional

In a recent Ph.D. dissertation the term IP is used for "any librarian, documentalist, information scientist, information manager, information specialist, intermediary, information broker, etc., working in some capacity with

- the theory and practice of creating, acquiring, assessing and validating, organizing, transmitting, retrieving and disseminating information,
- the management of the total information resources of organizations,
- technology which may be used in information science or information management" (Clausen, 1992, p. 37).

This corresponds to an internationally accepted definition of the IP among librarians (Ibid, pp. 37-38).

As noted by the author this definition does "describe the librarian's traditional job, as well as the functions of newer jobs within the information field in a broader sense." I think you will find this definition generally accepted by the Danish librarians who have introduced and elaborated on information science. An IP is a person capable of dealing professionally with information and documentary materials in a business environment where additional qualifications concerning information and information systems management are needed, too. A broader definition, which uses the term information worker instead of the IP defining it as anyone "who is working with information rather than things", is not found anywhere in the Danish writings (Ibid, pp. 38, 50-64).

This wider perspective cannot be denied so easily, however. An understanding of the IP in all its past, present, and future bearings will not do without trying to see this subject in a broad historical and social context. The definition of the IP is not just a fact, it is part of an emerging information economy. That is why a holistic view is needed.

Information

The librarian perspective on the IP focuses on intermediary functions of information handling. Information is produced and used as any other product, however, and the social dynamics determining the scope and character of the intermediary functions spring from the value-adding processes of information being produced and used. That is the reason why information is viewed and practiced within many other different contexts (Machlup and Mansfield).

In fact, a much more widely accepted definition identifies information science with computer science. This predominant view of information does not really separate information from information technology, i.e., information is reduced to an object of technology. The information technology revolution of the eighties made this technological definition prevail. According to this view, an IP would be a person qualified to deal professionally with computers, systems development, etc., (Olaisen, The use of Information: Olaisen, Information Quality Factors).

A third definition concentrates on the content of information, ignoring any technological aspects. Or rather, that is the way information is practiced and understood. According to this definition, information is simply identical with knowledge, and doing information work means the production of scientific knowledge, i.e. a true IP is a scientist, an expert within a certain field who adds value to information in the highest form. In applied sciences and the practical activities of business life he is the innovator and product developer who turns science into practice, or the analyst or manager that size up and decides on the commercial potentials of the market, or in the public sector, leading politicians and high officials analyzing and planning for large or whole sectors of society.

The second and third definitions mentioned above contain the basic producers of information and information value-adding in an advance society. It is the quality and size of these groups that decide the economic level of your country. An IP in the librarian sense of the term would be doing intermediary functions within or between these two groups and their organizations.

A fourth kind of information springs from the mass media. Newspapers, journals, and the electronic media produce a huge amount of information every day that originates either from science or is based on analytical activities of the journals on his own. The mass media contain more than professional information, as such, they also communicate knowledge of general attitudes and opinions among people that are of great importance to the political and economic decision making processes.

A fifth definition concerns the combination of information and information technology as two different but integrated fields of knowledge that each are dealt with professionally. In the eighties, such combinations emerged as new institutionalized education and degrees, primarily at business schools but also at universities. In this combination, equal importance is not always attached to information and information technology, and the contents of the information side vary (Økonomistyring og Informatik. Årbog '91, pp. 71-141; Studenterhåndbogen, Århus. Humaniora, passim). The IP of the librarian kind resembles these new combined degrees.

Communicative qualifications and practices make up a sixth way of professionalizing information work. Communications are a matter of securing that the message of the sender is properly understood by the receiver, often between the management and the personnel, and other intermediary functions within the organizations, or concerning its external relations. Publishers might be seen from this perspective, too. A librarian elevated to an IP would also include parts of such a communicative perspective on information.[2]

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[2] The communicative approach is professionalized in education at a number of Danish universities, for instance at the Department of Information and Media Science in Aarhus and at the kindred department in Aalborg.

A seventh definition deals with teaching. A teacher works with information in a human context. He is an information worker who adds value to his pupils, so to speak. The large amount of teaching material produced every year is part of this aspect, too.

An eighth category of IPs concerns the creative activities of artists and designers. This is a kind of professionalized information work that would normally be excluded from any IP-context. Nevertheless, creativity, professionalized in art and design, is becoming a professional part of business life, too.[3]

In the ninth place, you may point out that the many people doing routine and manual work also is part of the total social information process, combining various forms of know-how at the practical level. Know-how, i.e. knowing how to do things in practice, is an important aspect of all work.

Finally, to stress the broad span of information work within a holistic view, an advanced country like Denmark has highly professionalized the way it deals with the objects and documents of the past. And this professionalization of historical information work has increased tremendously in the past decade, where archives and museums have emerged in great numbers and research and teaching have expanded. It underlines the general trend to professionalize still more social activities, fuelled by a society being radically changed. It must be remembered, too, that the historical writings and activities make up the background and broader context of the present and future development. And even this perspective may, like for instance the creative perspective, turn into an integrated part of a more professionalized holistic view of organizations (see below).

The Professional

The often used term "professional" might also call for a definition. A profession is a combination of three characteristics or three kinds of knowledge concerning a specific field of work. Today, no social activity can be called a profession without being based on scientific knowledge. Secondly, a formal education must follow from these scientific activities. Thirdly, through practice a large amount of knowledge has been accumulated and systematized that exceeds science and formal education and therefore must be learned on the job.[4]

In the literature trying to define the term "professional" attention is mainly attracted to the profession on the job, i.e. the third part of my definition given above. And in addition, the specific identity of the profession is underlined, and how the members of the profession absorb this identity and its ethical code, guaranteed by a strong organization (Clausen, op.cit., pp. 51-53). The latter part of this definition may be nice and comfortable for performers of the profession. But they imply bureaucratic organizations with sharp and permanent divisions of labour, and a labour market organized accordingly, where certain organizations monopolize certain kinds of jobs. That may be the case in many existing organizations, but it will be quite impossible for a new profession on the labour market to obtain and enforce a monopoly.

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[3] Even at the level of management creativity might be considered in a professional way; Olaisen, *From strategic management to creative management*.

[4] Studying the Danish society and other advanced societies for years has brought me to that conclusion.

Bureaucracies are rapidly being turned into flexible and "flatter" organizations that can adapt to external changes. This is inconsistent with the idea of a permanent profession of its own.

The information and documentation sector

Information and information activities make up a many-sided world, as it was outlined above. The term IP might be used for any kind of information work, but this would actually make it meaningless. If the term IP is to make sense it has to be seen within a more specific context. That is where the information and documentation sector enters the picture. There is no generally acknowledged definition of such a sector, being rather new, and it must be underlined that the general trends of the Danish society provide the background for the scope and contents of this sector.

An information and documentation sector has to be looked at from different angles. First, it is a matter of defining the basic information resources of a country, namely the unpublished information resources of private companies and of public companies and institutions, on the one hand, and on the other hand the published scientific and professional information. Secondly, you have the public archives taking care of historical documents and information material stemming from the archives of organizations, and then you have the libraries organizing and keeping the published material. Thirdly, the economic trend in dealing with information and documentation must be considered, i.e. an emerging information market on the one hand, and on the other hand the strategic value attributed to information by management. Fourthly, the making of a national information policy signifies the general character and importance of the sector.

The matters of information resources will be seen as an integrated part of an emerging information market.

Archives

Archives are of two kinds, namely the "living" ones of present organizations and the historical archives seldom used in the day-to-day business. During the eighties, most of the "living" archives of the Danish private and public companies and institutions were converted into on-line computer based data bases causing automation and radical changes in the organizations. Electronic information processing that took over in production and administration were integrated with the electronic data bases, and they were turned into the combined information resources of each organization. As a consequence, automation led to considerable reductions of personnel at the lower parts of the organization while the upper groups had to face requalifications. In addition, a higher internationalized economy forced management to turn outwards the organizations and make them adaptable to a turbulent economic environment. These two trends of development have elevated the combined processing of internal and external information resources to the strategic level of management.

The coming of an information market is based on these changes that partly have increased the importance of access to relevant information, partly out of the passive internal archives of the past have made potential resources for the production of new information goods in the future. The archives of private companies are by nature private, and they are not accessible without special permission by the owner or the management. By the act of administration, everybody is

giving access to files of ongoing cases in public administration, except when invasion of privacy and national security are at stake. Documents kept in public archives are dealt with according to the rules for access to historical archives. Information on Danish citizens kept in electronic registers are managed according to the acts of registers, and access is restricted in cases that might invade personal privacy (see below).[5]

Historical archives, the other kind of archives, have by tradition always been highly professionalized - which the "living" archives of organizations practically never were. The historical archives consist of the national archive and authority in Copenhagen and four regional archives, all placed under the Ministry of Culture. They are run by university-historians that also do research as an important part of their job. In the past decade, local archives have increased considerably in numbers, and generally, professionalism is growing by way of historians, and archives are made more service minded and active in the community. The local archives are placed under their respective local authorities. The catalogues, not to speak of the documents, of the historical archives have not met the blessings of information technology, or at least only in a small degree - in many ways unlike the museums. However, right now an overall shared data base is being built for the central and regional archives, including catalogues, published indexes, etc., but it will probably take some years to complete and to make it on-line. The local archives are further advanced in computing. A number of local archives have introduced an identical system for filing, registration, references, etc. In the long run, the archives of the public authorities and the local archives might be integrated and accessed on-line. Reduced budgets have delayed such improvements, however.

The activities of the central and regional archives are of great importance to the "living" archives and rules of administration in the public sector (the State, the County, and the Community). In matters of filing, scrapping, etc., the academic personnel of the historical archives act as the professional guide and counsellor to public administration, including courses, paid organizing of archives, plans for filing, and the making of computerized systems. Through the back door, so to speak, the historical archives play an important part in professionalizing public administration, including some kind of integration between the two parties, too. A present proposal for an act of archives prepares for more integration and overall management. That includes the Danish National Business Historical Archives (Statens Erhvervsarkiv) that cover the private sector, but it has not been in a position to act as effectively towards private organizations as the other state archives have done within the public sector.[6] The proposed act of archives will in some degree soften the rather restrictive rules for access to unpublished public documents, too (Statens arkiver, pp. 12-44).

Finally, it must be remembered that the institutional separation of these two groups of archives was made for historical and practical reasons, and a breakthrough of information technology in historical archives might easily unite in the future what was separated in the past. A similar blurring of boundaries might occur between libraries and archives which are separated for historical and practical reasons, too - the separation between published and unpublished

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[5] The level of technology is generally high in private and public administration, although the public sector because of its huge volumes of information and complex structures of organization lingers somewhat behind. The low priority traditionally given to matters of records and archives, and the lack of professionalism, both in private and in public organizations, create many obstacles to an active use of internal information resources, too.

[6] Internal matters of company information has attracted very little research interest, so you have to rely on qualified guesses.

documents. Information technology, internationalized economy, and better management tend to abolish in years what it took generations to build.

Libraries

Still, in this turbulent world, libraries make up the basic parts of an emerging and growing information sector. Therefore, more than anything else, libraries deserve to be brought into focus.

In the 1960s, Denmark saw a new and scientifically based industrial revolution that brought about a much more internationalized Danish economy. In the same decade, the State grew explosively, and the so-called Welfare State appeared. This almost wildly growing State had to be put under control and to be planned, and in the early 1970s planning activities were started that have not stopped growing since then. One part of it concerned the libraries and the problem of information material being produced and applied in increasing numbers and speed. The general policy employed by the political system was to put pressure on the library sector by cutting down budgets and by encouraging to rationalize the basic work processes of the libraries. The computer was to be the basic tool in making this policy come true. Therefore, automation has been the domineering trend of the Danish libraries for the past two decades.

The Danish libraries are primarily of two kinds, namely local public libraries and research libraries. There are about one thousand local libraries in the 275 local authorities of the country, each community by the library act being obliged to run a public library. About 15 county libraries serve as a superstructure of the many service points. The research libraries are almost 200 in numbers. The National Library and a few large university libraries are placed under the Ministry of Culture. Some large specialized libraries have the Ministry of Education as their authority, following the institution of higher education that they serve. A big number of special libraries, mostly small compared to the large academic libraries, are placed under many different ministries, according to the authority of their institution, i.e. the so-called sector research institutions. Quite a complicated structure of authority (The State of Art, 1991, pp. 16-19). Finally, a number of companies and trade organizations have established libraries and information services of their own to support product development and to keep abreast of the economic and political activities in the field (Fremerey, et al.).

While the public libraries in the local communities are meant to be general centres of culture and information, the research libraries, apart from a few large national and university libraries with obligations of a general nature, are obliged to perform specialized information services for a certain field of science or economic and political sector.

A main concern of the public library sector, in spite of the many authorities on the scene, was and is to reach the goal of an overall and updated on-line data base containing all the published material in Denmark. Since the 1960s, a number of national data bases have been built as a basis of public administration in Denmark, and the libraries just follow this tradition. A national data base of published information concerns the making of bibliographies.

The Danish national bibliography is based on bibliographies from three sources: 1. The Office of the National Librarian (the bibliography of Danish government publications), 2. The Royal Library (the national bibliographies of maps, music etc.), 3. The Danish Library Bureau (the national bibliographies of books, articles, etc.). A few years ago, the Ministry of Culture took

over the responsibility for the national bibliography, and administration and coordination were placed with the new Danish National Library Authority (Statens Bibliotekstjeneste, SBT).

Since 1976 all books have been included in an electronic data base - a decade later extended by books from 1970-1975. A similar data base for articles has existed since 1979. In the eighties all the other sorts of bibliographies were gradually converted to data bases. The data bases were mainly used for catalogue production. In 1983, however, on-line search in the national data bases were offered, first at an experimental level, but soon it was made permanent, and today most public libraries are connected to BASIS, as it is called, including local systems of their own stock. The number of terminals and computers in the libraries are few, however, on-line searching is therefore normally reserved for librarians, while borrowers still will have to do with the traditional paper catalogues. In recent years, housekeeping systems for circulation control have been introduced in a growing number of large public libraries. Automation of public libraries, and even school libraries, seems to be targeted determinedly in these years.

In 1979 some of the large research libraries started cataloguing into a new shared data base, called SAMKAT (cooperated cataloguing), including books only. Today all large research libraries contribute to SAMKAT, and SBT intend to include all research libraries in time. Since 1981, a list of foreign books in practically all Danish research libraries, purchased from that date, has been accessible in a data base, called ALBA (base of accession catalogue). While the primary purpose of SAMKAT was to offer shared facilities for cataloguing ALBA was meant for on-line search in new books. In 1986-7, a shared computerized catalogue for periodicals was finally started, called DASP. Today, periodicals are still not included in the local systems of many large research libraries. The national data base of articles was made on-line accessible in 1987. In 1988, a data base of private and public research publications and projects in Denmark was started, initiated by DANDOK, the Danish Committee for Scientific and Technical Information and Documentation. The DANDOK-base, as it is called, is based on the local records of Danish research already made in the various institutions. Today, the DANDOK-base is still incomplete, however. Finally, a project for retroversion of older catalogue records are being planned.

The Danish Technical Library pioneered electronic cataloguing a decade before SAMKAT, however, and introduced its own on-line search and ordering system, called ALIS, in 1979, when SAMKAT was started. With an ordering systems in operation from 1981 and in 1983 extended by a circulation control system, DTL and ALIS also pioneered computerized house-keeping systems. In recent years, practically all other large research libraries have introduced on-line systems of their own, including systems for information retrieval and integrated housekeeping systems. The automation clearly effected the libraries as organizations, too. Flatter and more service minded organizations emerged, and the personnel was reduced at the low end of the hierarchy. Automation is taken hold of research libraries (State of the Art, 1987, pp. 13-42; The State of the Art, 1991, pp. 21-64).[6]

In the early 1990s, the Danish library sector is heading for integrated automation between the public libraries and the research libraries. In 1991, a project was started to establish a new common information system by 1993, called DANBIB, including extended network and data communication facilities between local systems and this new common system, that conforms to international standards and is friendly towards local systems. The network capacity was recently much improved when the socalled DENet was established. The DENet gives access to all data bases in Denmark, and indeed all data bases in the world that are connected to this network. Most large Danish research libraries and a growing number of data bases, including ALBA, have

joined this net. Abroad the number of connected libraries and data bases have increased explosively. Here in 1992, we are about to enter at state where all data bases of some importance in the world may be reached from your computer. This state of affairs will tremendously increase the potentials of the user, but also of the librarian if he can take advantage of the situation (The State of Art, 1991, pp. 85-86; Nyt fra Nyhavn, no. 3, 1991, pp. 21-23).

Since the 1970s, some research libraries and since the mid 1980s a number of public libraries have drawn on international data bases for various reasons. Libraries of specialized sciences concerning agriculture and industry, in the first place, started to register in international data bases the published research work of their institutions on the one hand, and on the other hand perform services of information retrieval for the scientists. In the 1980s, libraries of the business schools followed suit, doing registration and information retrieval in a similar way, as did the natural sciences and medicine at the universities. The information services have increased, particularly within the fields of industry, agriculture and business. The scope of these external services seems to be limited, however, and it is doubtful whether they are given any high priority. (State of the Art, 1987, pp. 42-45; Holt/Johansen, pp. 39-80; Nyt fra Nyhavn, særnr. 2, 1991, pp. 13-15; Dansk Databaser).

The public libraries have established information services for business, too. It started in the mid 1980s, on an experimental basis, when on-line access to national and international data bases was introduced in the local libraries. In the late 1980s and the early 1990s, business information services were made permanent in some large towns. Furthermore, the creation of company data bases for each county in some parts of the country, developed and updated by the local statistical department, increased the information potentials of local libraries. Small and medium sized companies seem to be the main group for these services. However, if the librarians want to make this a permanent business in the information market they will probably have to specialize and requalify to meet the growing demands of users and to manage increase competition (State of the Art, 1987, pp. 46-50; Hansen, L.; Nyt fra Nyhavn, særnr. 2, 1991, pp. 7-13; Jensen/Johansen; Elkær, L.).

A number of large companies and most interest and branch organizations have set up information services that seem to be of growing importance, particularly at the interest and branch organizations that try to guide their members through the political and economic jungles of an internationalized economy. Some large companies have developed true information services to support management in decision making, i.e. integrated more actively in the business life than the traditional company libraries (Danske Databaser; Fremerey, et al.).[7]

In these years, the libraries, not least the research libraries are being modernized technologically and as service organizations for their proper field of work. Quick and easy access to any kind of information and knowledge of relevance to your basic users is given highest priority, while external services remain supplementary (see for instance, Edb-planlægning 1990-1992; Det Kongelige Bibliotek i Forandring). On the other hand, the growing interaction between the public and the private sector, caused by a rapidly changing international economy and technology, make the various industries converge, and as a consequence, the field of relevant information is being widened. Boundaries between the many specialized libraries are likely to break down, and to be replaced by cooperation to fulfill the growing user demands for information of a still

[7] The many changes and problems in libraries caused by automation deserve a more thorough study than what is possible in this connection.

more complex character. What will become commercialized, and what remains a free good in the library sector is hard to tell. Probably, the dynamics are to be found in the trends of user demands on the one hand, and on the other hand the scope and strength of the information market - limited by technological and organizational potentials and by reduced public funding, too.

The Information Market

The Danish information market is small, but it is growing.[8] More and more public institutions are selling information services, not just libraries. Actually, libraries are just a small part of this growing information market, at any rate up to now. The Statistical Department of Denmark, for instance, is an institution on its way to become a large information producer on the market. For generations it has produced statistical series and analyses for the State and the public for free. But in recent years it has used the potentials of modern information technology to organize the basic data in data bases and to develop a growing number of information services for private companies and industries. In some cases, statistical departments of large local municipalities have followed suit. For instance, they have produced and update data bases containing valuable information on all the companies in the local area.

Another information producer in large scale is the State as law-maker. Regular delivery of law amendments and new regulations within your field of business can be bought and are being bought by a growing number of companies and organizations. The many specialized libraries and archives of ministries and their research departments and public companies might turn out to be huge partners on the information market, too, if they were truly commercialized, because they contain valuable information concerning practically all economic sectors in the society. Furthermore, large companies and particularly trade organizations produce and sell more and more information services, like the Federation of Danish Industries. The spreading of the CD-ROM medium of storage may cause this market to expand. The EC-policy to promote a common European information market might be mentioned, too (Danske Databaser; The State of the Art, 1991, pp. 42, 66; Overview of the CD-ROM Market).

Information and documentation services of public libraries and research libraries were mentioned above. Technology, enlarged user qualifications, direct access to data bases from the individual computer, and growing competition from consulting companies and institutions might change the information service picture of today. Some information broking businesses are found, but not in large numbers. One large newspaper has made a business of its internal information archive (Politiken: POLTXT), and the other big newspapers might do likewise to their internal information archives. Already in the near future, the technological development and increasing competition will probably bring radical changes to the mass media.

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[8] In this section I have tried to pick up various fields of public and private activities to give an idea of the real and potential information market, and to encourage a wide perspective on this rather vague and non-investigated field. So far, there exists no attempts to quantify economically the value of information production in the public and private sector, including intermediary information services. A study of the proposal for the Danish national budget, including its voluminous comments, would for the public sector alone indicate that it is a billion kroner business.

The growth of the information market is met by obstacles, too. Although on-line services in libraries are often paid for it still seems to be the general idea in the library sector that information as a rule ought to be a free good in the future, too. The tax payers already have paid for the information once (on this prolonged debate, see Christoffersen, et al.; Biblioteksårbogen 1980-1990, passim). Furthermore, by far the largest and most important part of value to business life is found in the research libraries and a number of public institutions that in many cases take advantage of their monopoly of basic sorts of information and charge users with heavy fees. That goes for most government departments and large public information producers, like The Danish Statistical Department. They behave as if they were acting on the market, only that have no competitors. Denmark makes no exception in these matters.

Probably, public institutions and departments in all EC-countries violate the Treaty of Rome, and the general plan for a free EC-market in 1992 will not include the public sector. It even violates the explicit intentions of the EC for the information market: public institutions are not to develop monopolies of information used in ordinary public service, there must be increased access to basic information springing from public activities, and more information on public information (Retningslinier for forbedring af samspillet). According to the Danish act of competition of 1989 (substituting the act of monopoly) public institutions with a "natural monopoly" on the production of some kinds of information are excluded from competition. Using this monopoly to charge heavy fees is a violation of this act, too. Some years ago, the Danish government launched a plan to modernize and privatize some parts of the public sector. So far, high fees for public monopoly services are the most visible result of this plan, while no truly commercialized services are seen.

The act of registers of 1978 was passed to protect the individual person against abuse of all the different kinds of information in various registers. I.e. one authority was not allowed to get information on a certain person from the registers of other authorities without the permission of the Supervisory Committee of Registers (Registertilsynet). As a consequence, the public administration will find it very difficult to turn its internal information into information goods, and again, this would exclude true competition. A decade later, a similar act of private registers was passed. Shortly after the passing of the act, "Registertilsynet" reported the information business POLINFO to the police for violation of the act of private registers. From its information base POLTXT, that is a large collection of previously published articles, was sold information goods containing personal information without the consent of the individual mentioned.

Other private electronic information bases of a similar character had arisen, and it was decided to delay further police investigation until the problem had been dealt with in a public committee. The committee concluded that such information data bases were to be considered tools for the journalist, and therefore should be seen from the perspective of information freedom and judged according to the media act and the penal act. Normally these information bases contain information that already has been published. The committee therefore suggested that such information data bases no longer should be regulated by the act of registers but according to a new act to be passed on information bases in mass media, based on the principles of the freedom of the press (Betænkning om Pressens Informationsregistre, pp. 37-87).

The case of POLTXT and the committee on registers in the press illustrates on the one hand the problems and changes caused by new technology, on the other hand the many hindrances an emerging information market has to overcome, for instance for legislation.

Finally, information produced by private companies and institutions and kept within private circles might cause conflicts with interests of public access to such material (Nyt fra Nyhavn, no. 4, 1991, p. 334 for example).

Information Management[9]

In 1983 DANDOK (the Danish Committee for Technical and Scientific Information and Documentation) published a paper on the use of information by business life. There seemed to be no links between the I & D field and business life. Although information on patents, markets, etc. was supposed to be vital to business, libraries and businesses seemed to be two separated worlds, and most business men relied on experience, intuition and the mouth-to-mouth method (Planning and Development of a Danish I & D Policy).

A survey and project in the late 1980s of some of the largest Danish companies demonstrated that Information Resources Management (IRM) was a concept unknown to management, and it showed that information was considered to be either a matter of technology or just what everybody practiced as a consequence of their specialized education and experience stemming from their jobs. IRM and the broader concept of Information Management were imported theories based on no practice (Bjerregaard/Winkel). Today, a few years later, it seems that the situation has not changed profoundly, but you do find evidence of new attitudes and practices. Recently, DANDOK has re-established a reference group on these matters, particularly the problems of information for small and medium sized companies. The group recommends an analysis of the needs for information in industry (Nyt fra Nyhavn, no. 4, 1991, p. 29).

However, all large companies that in the long run want to stay in business seem to have determinedly turned their attention and their organizations towards the outside world. As a consequence, they are also forced to professionalize external relations; by automation on the one hand, and on the other hand by intelligent information services. Internally, an IRM practice would pave the way for an Information Management view of the whole organization. Such perspectives are only seen in a few advanced companies, however (Olaisen/Revang, Information Management as the Main Component; Olaisen, Information as a Strategic Resource). Small and medium sized companies still do not seem to treat information of the outside world in a professional way (Vammen).

Information Policy

A way of measuring the importance and strength of the information sector is to look for the efforts to develop an information policy for Denmark. DANDOK has for two decades been the forum for information policy considerations. The aim of DANDOK is "to coordinate and develop the Danish I & D services towards research, higher education, industrial and commercial enterprises" (Planning and Development of a Danish Information and Documentation Policy, p. 14). A survey of Danish I & D activities in 1972 showed the inadequate supply of scientific information. A DANDOK plan of 1977 to develop a new structure of computerized research

[9] The term "Information Management" is used for a certain management perspective on organizations that give strategic importance to internal and external information and knowledge resources: see for instance, Marchand/Horton.

libraries and documentation centres was never carried out, but improved user guidance was. In 1981 the Danish DIANA Centre was established to promote knowledge and use of international and national on-line information services. For instance, DIANA produced and still produces a regularly updated guide of Danish on-line information bases and centres. Simultaneously, a survey of the registration of Danish research international data bases demonstrated a need for planning (Planning and Development ..., ibid., pp. 14-24).

A number of reference groups have been set up during the 1980s to improve the recording of Danish research and to make it publicly accessible in on-line systems, as a consequence of the above mentioned observations. In 1985 the EC developed its first programme for the specialized information market when it decided to make I & D an integrated part of economy and not just a matter of culture. In 1988 it was even decided by the EC to set up an internal information services market by the end of 1992. This caused DANDOK to initiate a report on the state-of-art as the first step in establishing an information policy in Denmark. The report concluded that we do not have any information policy, and that we lack an authority to enforce the Danish interests in the international forum (Winkel/Hielmcrone; DANDOK aktivititer 1985-89, pp. 21-22; see also the annual reports, in Biblioteksårbogen 1980-90).

A paper initiated by the newly erected National Library Authority was considered to be too much linked to the library approach (Wille). DANDOK formed a group of experts, representing business, research and intermediary interests to present a proposal for a new information policy. An action plan based on priorities was set up stressing the combined approach of research and business, and of national and international relations (Nyt fra Nyhavn no. 2, 1991, p. 15). In the spring of 1992, the group presented its report at internal meetings, and in the late 1992 DANDOK intends to publish a proposal for an information policy (ibid.).

The making of a national information policy is filled with problems, however. In spite of its growing efforts, DANDOK still has no authority to decide on an information policy. DANDOK is placed under the Ministry of Education and Research, and it represents primarily the interests of research. The National Library Authority, placed under the Ministry of Culture, rivals DANDOK, however, and underlines the importance of libraries in an information policy. The many research and information producing institutions of the other government departments make up a number of authorities that has been almost a blind partner in policy making, so far. Furthermore, the private sector does not pay much attention to matters of information policy outside their own field, although the information services of the organizations of each of the main trades are expanding, such as within industry and agriculture.

In addition, the problems of legislation must be added. As it was mentioned above, a number of laws create obstacles, such as the acts of registers, the act of competition, the act of access to public administration, the rules of access to public archives, the act of public libraries, etc. So far, neither the problems of legislation, nor the problems of the many authorities and interest groups have been thoroughly dealt with. This is probably caused by lack of an overall authority, on the one hand, and on the other hand a real world information sector that still has not matured.

Education

The Royal School of Librarianship

The coming of an IP profession in Denmark would have to show in education and in jobs. First, we shall look at education, i.e. the specific IP initiatives taken by the Royal School of Librarianship on the one hand, and on the other hand the general trends of science and of higher education.

As it was noted above, librarians in Denmark are of two kinds. One kind of librarians are the four year candidates from The Royal School of Librarianship that traditionally run the local, public libraries. Research librarians make up the other kind of librarians. They run the libraries of the applied and theoretical sciences, but you find many "ordinary" librarians here, too, particularly in the specialized libraries. The research librarian normally has a university degree, and in addition a one-year course at the Library School. His or her work is specialized depending on whether he/she comes from the humanities, the social sciences, or the natural sciences. Accordingly, you might consider research librarians the true IPs, even before this term was heard of, because they organize the basic information product, namely the product of science.

In the 1980s, on the one hand, libraries, librarians, and The Royal School of Librarianship were effected by the consequences of economic reductions, an economic policy to further private economic growth, and the coming of on-line data bases and library automation. As a consequence, the librarian world gradually changed its ideology. A business orientation emerged alongside the traditional welfare and cultural goals (Pors, Employment Patterns). Internationally, the changes were perhaps even more profound. Evidence of paradigmatic changes reached the library school, and they were soon reflected in education.

In the middle of the eighties the Danish Royal School of Librarianship revised its curriculum in order to "introduce students to both the theoretical and practical problems of the development and management of information services and systems; placing more emphasis on non-print sources of information, as well as packaging, communicating, and interpreting information for the enquirer" (Clausen, 1992, p. 70). Furthermore, a new Department of Design and Implementation of Specialized Information Services was established. Information Resources Management was introduced, trying to develop a more business-oriented way of dealing with information and to created new professional roles for librarians. Finally, in 1990 a new two-year MA course was started for graduated librarians and other qualified people to requalify and raise the qualifications within the fields of information science and information economy. The new course was meant to qualify students for jobs in companies and institutions that looked for professionalized knowledge of how to deal with information and how to develop information systems for business applications (Pors, Curriculum Development; Biblioteksårbogen 1985-90, passim).

The research librarians, much fewer in numbers, have not gone through a similar process of requalification. They are not forced to do so in the same way as the ordinary librarian. They have the highest formal education, and although budgets are low, unemployment and uncertainty of goals never reached the proportions of the ordinary librarian. They had to learn to use electronic databases and to create a more user oriented organization, but this was developed piecemeal on the job and in ad hoc courses. As it was mentioned above, however,

information services for business purposes seem in some degree to have entered the world of research libraries in recent years, and you may foresee that automation in time will enable the scientist to be his own librarian. Therefore, research librarians and libraries will probably in the '90s have to face this changing character of information search and services, and they will have to act accordingly.

Furthermore, the scientific activities and subjects in librarianship changed to meet the new challenges. A number of books and articles have been published since the mid eighties, elaborating on the changing character and content of classical subjects of research, like retrieval, and of the traditional role of the librarian. This scientific environment in Denmark consists of only a small group of persons, however, a few teachers from the librarian school and a couple of research librarians. Generally speaking, research activities are few in the librarian sector (Biblioteksårbogen 1985-90, passim; Ingwersen, 1992; Clausen, 1992).

The Business Schools

The business schools, primarily the two large ones in Copenhagen and Aarhus, make a fine barometer for the trends in economy. In the eighties, an internationalized economy and a break through of information technology in organizations brought about radical changes in curriculums, research and departments. In the middle of the decade, for example, the Institute of Accounting in Copenhagen was relabelled the Institute of Informatics and Management Accounting, as a consequence of paradigmatic changes of accounting and its organizational contexts. Furthermore, new combinations and degrees of business economy and computer science appeared. In general, the problems of information processing and systems development within companies were integrated into all disciplines of the business schools. Informatics had taken hold of the business schools.

At first, in the middle of the 1980s, attention was drawn to the problems of introducing data bases and distributed data processing that dominated business life at the time. When established, strategic consequences of reformed organizations based on integrated computer systems were taken. Computer departments, so far staying in the background, were deliberately made an important part of the overall business strategy. And simultaneously, when entering the 1990s, information technology is being deliberately used to obtain competitive advantages in the market. And the business schools followed suit (Økonomistyring og Informatik, 1986-92).

The breakthrough of information technology and a more internationalized economy turned the traditional bureaucracies into more "flat" and flexible organizations to meet the changing demands of an increasingly turbulent external economic environment. As a consequence, a more holistic view of dealing with the problems of the organizations was developed within the various and very specialized subjects of business schools. Culture was the key word for this holistic perspective (Virksomhedskultur).

The growing importance of external relations to the market etc. has not created radical changes in the priorities of business schools comparable to the "rearmament" of information technology. Business schools still give highest priority to the problems of technology, statistics, and normative methods. Although the institutes dealing with marketing and export seem to be of growing importance there is yet much to be gained until these studies have adapted to the new internationalized conditions of business life. So far, the world of education and research in

business schools has not seen a paradigmatic change towards a holistic view of organizations like that caused by the information technology revolution, although such tendencies are emerging (Forkningsnyt 1991-92; Beretning fra Handelshøjskolen i København 1990-91; Olaisen, Pluralism or Positivistic Trivialism; Hildebrandt).

Today, information is still not separated in theory and practice from information technology and from the various specialized economic subjects. Technology rules information, also in the combined studies of technology and business management. Information retrieval, for instance, is not an integrated part of these studies. The state of affairs at the business schools probably indicates the state of business life (Økonomistyring og Informatik. Årbog 91, pp. 71-141; Knudsen, Edb-mæssige kvalifikationer, pp. 52-134; Olaisen, Information versus Information Technology).

As regards the Technical University of Denmark and The Danish University of Agriculture, they have large and advanced libraries of their own. The students are introduced to information retrieval, and the teachers practice on-line searching. Many graduates end up in consulting jobs or even consulting businesses of their own, being based more and more on complex information handling. Furthermore, the high speed of scientific production and the converging trend in science all press for changing curriculums and for changing priorities of students and teachers. This implies a general change of attitude that probably has not taken place, so far (Beretning fra DTH 1990-91; Beretning fra KVL 1990-91; Knudsen, Edb-mæssige kvalifikationer, passim; Biblioteksårbogen 1985-90, passim).

The Universities

By nature, the theoretical character of university studies make them less sensitive to the economic changes in society. Primarily, a university is made up of highly specialized professions of basic research. Some branches of science respond more than others to changes in economy and technology, however, namely the social sciences, computer science, and information science.[10]

At the Danish universities the study of information has mainly been a subject for computer science. One part of computer science deals with the mathematical-logical problems of computing and creating information systems. Another part of the computer departments is concerned with the combined technological and human aspects of bringing information systems into organizations, i.e. systems development. Unfortunately, the latter part was never formerly made a part of the curriculum, and was never thoroughly based on the human and social sciences. In recent years, too, it has been difficult to maintain this tradition, although it is still there. Furthermore, computer science in these years are met with reduced needs for specific computer qualifications, and a growing demand for more general qualifications (Knudsen, Edb-mæssige kvalifikationer, pp. 52-134; Bjørn-Andersen/Nygaard-Andersen).

In the early eighties, the Combined Studies of Humanities and Computer Science started at the Faculty of Humanities at Aarhus University, and were soon after followed by a kindred department in Aalborg. These studies were in many ways established to develop a scientific basis for the systems development tradition of computer science. A few years later the combined

[10] Trends and changes within higher education and their research are not easily documented, therefore, much is based on internal, unwritten knowledge of what is going on. That goes particularly for universities.

studies of two years length, on top of a graduate degree from the humanities, were extended to a four years candidate study of its own, called "Information Science". Dealing with information technology is still the main subject of the Institute. But now, where information technology is generally applied and much more easily employed than it used to be just a few years ago, the importance of the traditional computer science part of the study has declined, and instead, the social and human sciences are increasingly being underlined. It is the context of the information processing and communication acts that count. The social and human context approach are dealt with scientifically from a holistic perspective, applying and renewing the traditional social and human sciences to be used in the modern world of applied information technology.

In recent years, information in the sense of knowledge has been developed at the Department of Information Science as one way of specializing or expanding the analytical capacities of the candidates. The strategic handling of information technology and a market oriented view of organizations are combined with a knowledge-perspective, or an information management view, on information and information technology in organizations. The analytical approach combined with the technological know-how are underlined, however, more than the intermediary functions of bringing information from the producers to the users of information (Informations- og Medievidenskab). The specialized study of information and documentation materials is a subject of its own, to be dealt with by librarians, or perhaps historians, too. Actually, history is a profession where graduates are trained systematically in dealing with information and documentary materials and in applying these materials in historical analyses (See above, Archives).

The planning and analytical activities of the public sector, and in a smaller degree the private sector, are carried out by the graduates of the social sciences, i.e. politics, economics, and law, first and foremost. They are the leading user groups of the public sector, while especially engineers and graduates in commerce run the private sector of production and business activities, respectively. In some way the social sciences have changed to meet the new challenges of a public sector being restructured to fit the reformed private sector. The internationalization of the Danish economy and its political institutions, the information technology revolution, the growing importance of modern management, even in the public sector, the bureaucracies being turned into flexible organizations, etc., all these changes have made the social sciences stress the importance of general qualifications on the one hand, and on the other hand the dynamic character of advanced management.

Students of the social sciences are trained in producing the analytical background for decision making. The growing amount, complexity and change of the information material in a turbulent external world have made them more aware of the benefits stemming from professional ways of seeking and using the basic sources of information in their field, too, but still this perspective is positioned in the periphery of these studies (Samfundsvidenskabelig information og dokumentation; Blume).

Jobs

Librarians

The first MA-candidates from the librarian school graduated this summer of 1992. As for the students that have graduated from the four-year ordinary revised curriculum of the mid eighties,

no detailed statistics seem to cover their job situation. That goes for the whole group of librarians organized in the Union of Librarians, too. In general, you are left to do qualified guesses to decide whether librarians have succeeded in some degree to change their traditional intermediary and cultural oriented job in the public libraries into a new profession that provides information for business purposes.

More than 2000 librarians are employed in local public libraries, and almost five hundred in research libraries (Biblioteksårbogen '90, p. 101). Most librarians in public libraries are doing an intermediary job for the public. In some towns throughout the country, libraries have set up special business information services which each employs one or two librarians, but within the existing stock of librarians. With some success it seems, although the information demanded mainly concerns reference services and therefore implies little value-adding. As it was observed, the library information services that want to stay in business will probably have to develop specialized services (see above, The Information and Documentation Sector).

The research libraries, delivering specialized information on any scientifically based function in the Danish society, have in recent years been frequented more often for business information services, too, as it was concluded in a survey of a more than one hundred research libraries conclude. The services do not differ much from the ordinary activities of delivering articles and books, and therefore, business services are mainly performed as an integrated part of the daily activities, implying little value-adding, and probably producing very few jobs, too (See above, The Information and Documentation Sector).

Outside the public domain, a few hundred librarians are employed in private companies and institutions. Some of them take care of company libraries, others are doing information- and documentary work for business purposes - all depending on the priorities of management. Recently, some of the large companies and trade organizations have started professional information- and documentary services as an integrated part of their main business activities. While traditional company libraries seem to stagnate or even to be reduced in numbers, these new information services may expand and prove to be a promising field of employment for librarians. Still, it is all very new, although trade organizations seem to be further advanced than private companies, because they have widened their scope and activities to support members in matters of law, regulations, and general technological and commercial problems. Some of these information services tend to be a business of its own, however, and is likely to join the information market, if this is not already the case (Pors, 1989, 1990, 1991; Danske Databaser).

It must be observed, however, that by tradition many, maybe most company libraries are less professionalized than the public sector, and therefore they are often manned with non-librarians. For decades, the Danish Technical Literature Society has supported the company libraries and their non-librarian personnel. The guide and list of Danish company libraries is compiled and published by this society (Fremerey, et al.; Ammundsen, et al., passim).

True consulting businesses within the information sector are very few, it seems. There are a few information brokers, and recently, consulting businesses are set up at the Royal School of Librarianship in Copenhagen and at the Science Park in Aarhus, for instance assisting in building information services, rendering courses, and delivering surveys. The Danish Technical Society of Information, a public institution placed under the Academy of Technology and Science but mainly financed by doing services on commission, has for decades rendered information services for business life. A few years ago, it initiated a project on IRM in a number of large Danish

companies (see above). Finally, the Danish DIANE Centre placed under DANDOK was set up to promote the use of on-line data bases, especially domestic bases. DIANE has regularly published updated inventories of data bases produced in Denmark, hosts, a list of information brokers, etc., including more than one hundred institutions offering information retrieval for money (Danske Databaser). That is about all worth while mentioning within the field of information consulting that employ librarians. You find some librarians doing information retrieval in other kinds of consulting businesses, too, but probably only in small numbers.

The coming of an information market, although still a very modest one, has created a new niche for librarians in companies delivering information services. It is undoubtedly a growing business field, but whether this means more jobs for librarians or not is an open question. It depends on their ability to enter an information market that in many ways probably will originate from the big traditional information producers of the present or those capable of value-adding their own information potentials by way of new technics like the CD-ROM. Jobs for librarians in this field, when it really starts expanding, will have to be conquered in tough competition with candidates from business schools, technical universities and traditional universities that generally dominate the information processing activities organizations and public institutions.

Graduates from Business Schools and Universities

A lot of information processing and analytical work is going on in business and public life. In public life the basic activities of administration and planning are performed by university graduates, mainly coming from the social sciences, like political science, economics and law. Many university graduates are spreading into to private companies, too. This is a consequence of a general increase in qualifications demanded and applied in organizations. In private companies, apart from production, where engineers rule, it is mainly the candidates of the business schools that run the vital information activities of business. And they are numbered in thousands. In general, graduates of the applied and theoretical sciences make up a growing share of the total working force, showing the predominant trend of professionalization and up-qualification.

An increasing number of business schools graduates are being employed in private companies. A professionalized and internationalized economic environment calls for more and higher educated personnel. For a decade, information technology has been and still is of primary interest. In recent years, however, organizations seems to be more determinedly occupied by adapting themselves to an international and highly competitive economy by being more externally oriented towards the market. A growing interest for marketing, competitors, and general trends in the market leads hundreds or thousands of business school graduates to fill up the relations between companies and the outside world. Other highly educated persons will find their way into these new realities of business life, too, because the changing world of economy includes converging qualifications and a growing need for general qualifications and knowledge of the world and of organizations. General qualifications represent the weak side of Business School candidates that normally have rather specialized and normative qualifications, while university graduates are supposed to be stronger in general and abstract thinking and analysis.

While the business schools deal with problems of economy and management in general, the Technical University of Denmark and the University of Agriculture produce the graduates that

predominate consulting, research and management within industry and agriculture, respectively. The many small and medium sized firms in Denmark normally do not employ graduates. Instead, the graduates support these thousands of companies externally through large trade organizations, or by way of consulting companies of their own.

In the eighties, graduates of computer science spread in hundreds to man the expansive computer departments of public and private companies and institutions, just as they did in the growing software industry. In the second half of the decade, graduates from Information Science of Aarhus University and candidates from the combined studies of computer science and economics at the business schools entered the field of systems development, too, when automation reached a high and integrating level in organizations. In the '90s the mature state of information technology and the coming of professionalized relations to the outside world have put flexibility and knowledge in the forefront of organizations, confronting the specialized graduates of technology and economy with new demands of knowledge (Knudsen, Edb-mæssige kvalifikationer, pp. 52-134; Christensen, 1992; Christensen, En beskæftigelsesundersøgelse 1984-89; Bjørn-Andersen/Nygaard-Andersen).

Conclusion

So far, the Danish economic system has not been transformed into an information economy, and the Danish society is still no information society. A technological revolution has taken place on the one hand, but on the other hand, information and knowledge are not considered capital goods of their own, comparable to the traditional capital goods. The economic value chain may be seen as a chain where information and knowledge add value to the processes going on. But as a matter of fact, information and knowledge are not viewed as separated from information technology, and the analytical and know-how competence of the working force are still based on highly specialized qualifications of mainly a technical or an economical nature. General knowledge and information as something different from technology is only slowly being acknowledged. A quick acknowledgement of this kind, it must be observed, would simply undermine the positions of large parts of the present working force. That is one of the big barriers to overcome.

Librarians have been active in creating a theoretical basis for separating information and information technology, and they have come up with the outlines of a new information profession. by way of information technology, this profession deals with the intermediary functions of information and documentation in business life. New information services have emerged in public and private contexts, and even an information market seems to be on its way.

However, the theoretical efforts concerning the qualitative sides of information science has to be further developed and integrated into the theories of applied and theoretical social sciences and even into the humanities and the theories of technology. This has not happened in Denmark. Technological and traditional user perspectives still are predominant. Furthermore, you find no theorist comparable to Johan Olaisen in Norway and Horton/Marchand in the USA. And empirical investigations of present business activities, including changes and problems of modern organizations stick to the dominant paradigm of technology when it comes to information. For instance, Olaisen has found that information management perspectives are emerging in Norwegian companies which seriously take the consequences of the changing character of world economy and plan to stay in business also in the next century. In this trend,

however, you only find information professionals of the librarian kind placed in marginal positions. This may apply for Denmark, too, but we do not know for certain.

The marginal position of librarian IPs might be changed for the better by a break through of an information management point of view. But an IP exclusively in the role as an information intermediary will eventually meet the consequences of automation and enlarged user qualifications. Unless IPs are willing to accept a humble and marginal role in the total information value chain, they will probably have to add more value to the total information process, i.e. reaching for higher qualifications and for more dynamic and vital activities in information science and practice. The graduates of the applied and theoretical sciences do not only make up the backbone of a Danish society being more and more professionalized and based on science. Their work and identity are changing as a consequence of matured information technology and a complex internationalized economy. Their activities and demanded qualifications are converging, and they are being dominated still more by information and knowledge handling. This make them what might reasonably be called the IPs of analysis and know-how, while the librarians would be the IPs of information retrieval. Boundaries are blurring, however, and it is an open question, according to my opinion, whether the term IP should be restricted to the people who perform intermediary functions of information and documentation work, or it should include those doing information work based on higher specialized user qualifications, too. But even these two perspectives seem to converge.

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THE GREAT VARIETY OF ROLES AND CAREERS FOR MODERN INFORMATION PROFESSIONALS IN FINLAND

A review of the current situation and signs of change

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Introduction

Under the pressure of environmental turbulence the architecture of corporate organizations has been, and still is, in transition. This situation has affected the nature of competition, the success factor of the company. The trend in industry is to focus on "core" matters, i.e core businesses, core customers, core products and core competence. Product life-cycles are shortening and the need to create new products is increasing. This means that competence and information are more and more important success factors for the corporation as well as for the whole nation. In these areas, companies have to search for a new architecture which can serve in the changing environment.

During the present economic recession in all the industrialized countries, the information services, both corporate and public, are being required to manage their activities according to quantifiable business objectives. Information services will be judged by the yardstick of productivity and quality.

The information service has to gain competitive advantage by using the segmentation of customers and products. It has to develop such quality for the products and services that the customers are willing to pay for. Product development is the key word here. The task for us information specialists is to be able to answer the question: "What information is needed for our company to be successful?"

These needs of industry have created the following type of training.

Education and training of information professionals working especially in industry and public administration

The training programme run by the Helsinki University of Technology was launched in the year 1968. This means that it has reached the ripe age of 25. It has been under continuous development during its existence and almost all the information specialists who today work in companies and public administration have passed through this programme.

All the roles and careers of information professionals are, in one way or another, a result of this training. The goal of the training programme is to go through the whole intelligence process and give the participants a firm grasp of concepts, ideas and tools in information management and information services. It is a good starting point for a successful career.

The vast majority of the participants are expected to have an M.Sc. degree before they start this training programme. They come from various types of organizations. The following tables show the average distribution of the science areas of the university degrees and the employers of the participants, over the last five years or so.

Academic degrees	
o Engineering	26%
o Sciences	23%
o Social and political science	16%
o Economics	14%
o Humanities	13%
o Law, medicine, etc.	8%
The employers	
o Enterprises	37%
o Public Administration	20%
o Research institutes	20%
o Universities, unions, societies, etc.	23%

Our quarter century of experience clearly shows that companies are very interested in information specialists who have an M.Sc. degree in engineering. Nowadays they are also beginning to be increasingly interested in people who have a background in economics.

The nine-month-long post graduate training is divided into ten separate modules of lectures and seminars. In addition to their regular work, the participants study independently between seminar periods. Exercises and seminar papers concentrate on the student's own organization. Thus the results of the studies can be directly utilized by the students in their work.

The content of the training programme includes a broad area of important views on information as an asset in organizations. The participants learn about and work with subjects like:

- Corporate intelligence
- Knowledge organizations
- Network organizations
- Communication
- TQM and information auditing
- Information technology as a tool in information management
- Management of change
- Information policy
- Infopreneurship and infobusiness
- Monitoring intelligence
- Value added information products
- Internal and external information markets
- Knowledge marketing
- Legal aspects
- Consulting

Twenty-five years ago, this training programme grew in response to the needs of industry. The main aim of the training is still to produce skilled information professionals who, for their part, can help to sharpen the competitiveness of business and industry.

In Finland there is also the possibility to study library and information sciences in three other universities. They train students who will then work in library-oriented areas such as public and private libraries. These students do not usually have any academic degree before they start studying librarianship and information science. Their ultimate reward is an M.Sc. in librarianship and information science.

Different roles and careers

Company careers for information professionals are developing in two very different directions.

Vertically, leading to managerial positions

The corporate ladder is climbed either in the information sector, as far as the position of the director of all information functions or as an information manager or as the director of some business function moving out of the information area into the business area.

Horizontally, e.g., leading to an expert position

Those professionals who have expanded their activities by moving from the traditional information sectors to business and governmental areas, generally have very successful careers and play interesting roles. And the interesting roles they play vary greatly. Information professionals are to be found in companies and corporations, in government and public administration, in research centres and universities. They are directors, managers, analysts, consultants, entrepreneurs, advisors, and intermediaries.

The above examples only give some idea of the richness of opportunity, Each year seems to produce a previously unheard-of role. It is an ongoing dynamic process.

Expert roles

The information scientist in a research centre or unit. He has the same background as the researchers (a chemist in chemical research etc.). Very often he has been a researcher at the same centre, which means that he works alongside this former colleagues. His work is based upon his knowledge of the scientific field together with that of information research and handling. The person working in this area needs to have the right scientific background, a logical and analytical mind, and he must be able to produce reports rapidly.

The information specialist in a dynamic business unit/company. He constantly monitors competitor intelligence and knows how to get information quickly about markets and the whole business environment. He must be a very active and dynamic person and must know the business thoroughly. The service is based on speed and an excellent knowledge concerning different sources of information. There is no time for deep analysis.

The information specialist as the assistant of the strategist. He has a good business knowledge and very often has a background in economics. He finds and analyses the information needed in strategic planning and decision making. His strength lies in the ability to manage both the

reliable internal and external sources of information and to process the information for business intelligence purposes. After sharing the same background as his colleagues, an information specialist can also be a member of a project group in R&D.

The information specialist as the assistant to top management. This role is very similar to role 3. The task here is to monitor signals and trends within the business environment, to find business information rapidly and to be able to produce analytical reports. Typical of this role is that the information specialist has a very small group of extremely demanding clients and a wide information area to cover. He needs a good knowledge of business.

Managerial roles

The information specialist as the manager of the information service

The information specialist as the director of all the information functions within an organization, e.g.. as the head of a department/centre where information functions are one sector among many others.

Combined roles

- Public relations and information specialist.
  Takes care of collecting and spreading information.
- EDP and information professional.
  Takes care of the development of tools, systems and services. Helps and trains the customers to use technical tools and information.
- Market researcher and information specialist
  Looks after information both by doing market research and by using other available sources.

The information specialist as the IRM person. Is in charge of the development and management of information resources and assets. He deals mostly with internal information but also some external. He also coordinates the information functions based on his knowledge of the organization, its functions and culture. In finland this role is found especially in public administration.

The information specialist as a consultant. Information professionals also work as consultants in helping customers to develop information functions, in starting new services, or finding new products and tools. Training can also be a part of this consultancy work.

The information specialist as an entrepreneur in infobusiness. Entrepreneurship can be based simply on the information products or can be combined with other kinds of products and services being sold by a particular company.

The information specialist working in an academic library.

Advisory and information services. Small and medium-sized enterprises cannot afford to employ information professionals of their own. That is why the advisory and information services for SME's have been developed in different public and private organization. In these organizations, information professionals work together with consultants in helping companies with their information problems.

The information specialist as a researcher. Some of the information professional work as information science researchers in universities and research centres.

Skills needed. From product-oriented to customer-oriented

The process of creating a good information specialist does not start when the info training starts. It begins when you select the people to be trained. Depending on what rung of the corporate ladder they have reached and on which role they play, the intelligence processes in organizations demand from them a great variety of skills.

The effective information professional is able to take risks, able to market, be diplomatic but at the same time stubborn, in short, one who does not give in, but gets things done. He must be able to make sound decisions on a timely basis. He often faces the dilemma of whether and when to make a decision or to continue gathering information. An information professional needs a very good knowledge of his own organization. To many information professionals lack basic business know-how and an appreciation of day-to-day business needs and overall operations.

Those who work as analysts, researchers and developers need a logical and analytical mind. They must also be good at problem solving.

Persons who are innovative, eager to learn new things, and communicative have a more successful career than others in information jobs.

Information professionals must be able to make both one-to-one and/or group presentations. They should be excellent communicators, making certain that the proper people get relevant information when they need it. They must also be able to draw information from others while at the same time being sensitive to internal relations and the corporate culture.

Information professionals need to be seen as people who are interested in helping their clients, who will listen to them, and who will provide them with the assistance they need to solve their problems. A client must be able to trust an information professional to maintain personal and organizational ethics and values.

Because of the continuous changes in the world, the information field will be an area of life-long learning. The training of information professionals is a never ending process.

INFORMATION POLICY IN NEW CIRCUMSTANCES OF REGION OF CENTRAL AND EASTERN EUROPE[1] WITH SPECIAL REGARD TO HUNGARY

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"Are we being properly informed at all? It is no exaggeration to say that the future of human society will depend upon the answer we can give to that question."

Arnold Toynbee

ABSTRACT: The precondition of joining European information integration is the information integration in national levels. Information institutions that are crumbled mostly compelled to autarky can hardly be internationally integrated. Common interest, communication technology development and **organizational** and **structural maturity** are needed for an integration within national framework as well.

The background of such a development are existing in the region of different level, but are enough formed and structured. One of the major roles of the "modern information professional" in the region is to contribute to the formulation of an adequate information policy and to the structuration of the national information systems, as the way to the international information integration.

Historical approach

In a historic overview, the following three large historic-social periods of scientific information can be distinguished:

a) In the first the **library** and within it the book, the primary literature plays a hegemony role, which coincides with the primacy of **agricultural** production (the decisive majority of the population cultivates the land); this period lasts until the beginning of the 19th century, the industrial revolution in England.
b) The second period is characterized by the appearance of **documentation**, the combined information hegemony of the book and the periodical, and it is especially the volume and importance of periodical literature that increases. This leads to the coming about and proliferation of secondary information (bibliographies, abstracts, etc.); this coincides with the gradually increasing and later dominant role of **industry**, which lasts until the second half of the 20th century.
c) The third period is made possible by the appearance of the **computerized data bases**, and their proliferation - the revolutionary change in information and communication technology - the mass of secondary information complementing the book and the periodical; then follows the carrying of the primary (original) texts on laser-optical data bases, which coincides with the **tertiary services sphere** becoming dominant (at least in the most industrialized countries, where the bulk of the population already works in this sphere); here the concept of the "information society " begins.

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[1] In order to save space I shall use hereafter the expression "region".

In respect of scientific information, these three large historic periods do not follow on or eliminate each other but are **complimentary**. Depending on time, circumstances, research area, regional and national traditions, grade of development, the emphasis is sometimes on one sometimes on another, but the essence is their integration.

Just as a reminder for the further explanations: scientific information is both an **activity** and a **product**. The definition of the historic role of information includes the distinction and complementary of the information of a **social service** nature strengthening the national identity and the information having the nature of a **commodity**. International experience proves that the more developed an economy is the more significant is the quantity, distribution and application of information of a commodity nature. In this respect the backwardness of the region is general in comparison to the industrialized countries. Information has become one of the **global** problems of the world (see also the protection of the environment, food supply, etc.), and it is characteristic that despite this global nature no **genuine** information policy commensurate with the weight of the topic has arisen in the countries of the region.

The more developed an economy is, the **more open** information economy it requires. Similar to science, information cannot be handled efficiently either in the circumstances of autarky. The exchange of information is the more important in a country the less it disposes of the other basic resources of the economy, as raw materials and energy. From the aspect of the criteria of the international exchange of information too, Hungary, for instance, is especially interested among the countries of the region. This country has, on the one hand, very limited quantities of the mentioned basic economic resources, and on the other, more than 50 percent of its national income is realized in the external economy (to make no mention of its linguistic isolation). What follows from all this is: open policy; open economy; open science; open development/innovation; and, open information.

An information policy approach

Autarky and integration

Information is part of science, but it is a decisive part of research, mainly basic and applied research, and therefore its treatment from an information policy and economic aspect is justified. This is being done in the developed countries, where the governments deal with information policy. This is a task of the government even in the most liberal economies.

In Hungary, in 1990-1991, British and American experts investigated the book circulation (publishing of textbooks, distribution of books, library system, etc.) at the request of the Ministry of Culture and Education. Their findings were summarized in a study which was discussed at an international seminar.

It may be stressed out of the findings of the survey that in the market economy countries the libraries represent a secure market and are at the same time carriers of the values of human culture. While it is necessary to reduce the role of the state in the economy, basic education, the basic health services, research and development cannot do in future either without the government accepting a certain task. The **transfer** role of the libraries is irreplaceable. The library system serving public welfare must be **preferred** in international credits. Public collections are mostly financed by the state budget even amidst the hardest market conditions. If the library and the information system related to it do not receive sufficient attention, the country can become intellectually isolated.

It may add the following to the findings of the foreign experts:

In Hungary there has so far not been a governmental stand taken concerning the supply of scientific information. This does not accord with the practice of the developed countries[2] nor with that of the Western integrations, as e.g. the European Communities, OECD, etc. It was exactly in February 1992 that the European Parliament placed on its agenda the standing of the public collections of the region, including that of scientific information[3].

In the international context one factor has to be stressed. One of the basic conditions of adherence to the international information integration is the **national information integration**. In the absence of a developed information organizations mostly compelled to autarky can hardly be integrated internationally. These national information organizations, as parts of systems existing more or less only on paper, can only be sure of what they know to be in their collection, because the technical conditions of cooperation are extremely scant. In the national framework too integration assumes the common interest, the high grade of development of communication technology, and the **organizational and structural maturity** built on these. The development of these is a question of the future in the region, including Hungary.

Although in this country a Library Act formally has existed already for one decade and a half, it has been condemned to vegetation. However in the course of the years there have been national information policy initiatives, such as the National Special Literature Information System was, and similar others. However, these - although they raised several interesting questions in their details - have never arrived at the stage of even partial realization. **The common interest was missing**, as well as an adequate communication technology and consequently the organizational maturity. This is what the "modern information professional" has to face in 1992, or respectively, this is what he has to recognize first of all.

Primary special literature supply and selective development

The two pillars of special literature information supply will be provided in future too by its **collections** and the **services** built on them. In this respect the situation is **favourable**, for instance, in Hungary, since the information systems are built in their majority on libraries. I consider the research and the higher education information essentially **one category**. At the present stage of development it is the **collections** that get into a **critical** situation, while in respect of the services there are encouraging initiatives. The foreign technical assistance programmes also mostly aim at these.

The first large scale enterprise of a national standard, which is truly promising because it is coordinated, is for the development of the services the so-called **IIF Programme** (Information Infrastructure Programme). The sponsors of this are the National Technical Development Board (OMFB), the Ministry of Culture and Education, the National Scientific Research Grant (OTKA), and the Hungarian Academy of Sciences. There are already measurable results, as are the

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[2] Just as a reminder: such are in the United States the Weinberg report, in Germany the Bundesministerium für Forschung und Technologie (Fachinformationsprogramm 1985-1988 der Bundesregierung, Bonn, 1985), or the Anderla report summarizing the information policy of the OECD may be mentioned besides many others.

[3] Report on the preservation of libraries and scientific archives in the countries of Central and Eastern Europe. Council of Europe Parliamentary Assembly. 20 Jan. 1991. doc. 6545

hardware and software, network linkage, electronic mail, etc. The electronization programme of the public collections and of the higher education institutions initiated by the Ministry of Culture and Education is also partly linked to this. However, these programmes are computer-orientated, which is indispensable for a genuine and national information system, but cannot substitute the supply of primary information.

The supply of primary special literature of scientific information (books, periodicals, and other full texts on various information carriers, have got into a **critical** situation irrespective of the information infrastructure programme. Until 1989 the import of the foreign special literature (except for the international exchange of publications) was a highly inefficient state foreign trade monopoly. The mechanism of importing was as follows: entrusted by the government, the Ministry of Culture allocated every year a certain sum amounting to several hundred million forints in the form of a **foreign exchange quota** among the ministries. The latter entrusted a network information centre (library) designated for this purpose with the allocation of the foreign exchange quota among the interested institutions. The ministries looked after the national currency cover, i.e. the forint. This bureaucratic quota system has ceased to exist. The import of books and periodicals has been **liberalized** by the government. This has been an important step. However, liberalization in itself does not solve the question of acquisition, if it is not accompanied by an adequate national currency cover. The facts indicate that the galloping inflation in the region (in Hungary, for instance, the annual rate of inflation can be considered approximately 30%), the approximately 15% increase in the price of western books and periodicals annually, the changeover of the former Comecon countries to dollar settlement, all these factors combined can result in an approximately **25% reduction** of foreign special literature. In 2-3 years this trend may lead to phenomena which are similar to those which exist in the developing countries. These consist in the gradual development of the possibility of access to data base bibliographies and other information computerized data, which rather increase hunger than are sufficient for mitigating the hunger for information. In vain is the most recent Western computerized information "list of fares" of the latest scientific achievements available, if the fares (the food) are lacking. Although the unevenness in special literature supply does not lead to an immediate catastrophe, but in a few years it causes damages which are almost unrepairable. For instance, in a country like Hungary the stabilization of high-standard researchers is difficult to solve. **On account of the unsatisfactory research conditions and the low pay** in comparison to the highly developed countries, if even the **indispensable information for creative work**, the supply with books and periodicals becomes more and more deficient, then this is not only longer a negative trend of the library information. This trend becomes a **research potential** and in wider context an **intellectual policy problem**. The negative intellectual phenomena (the ambition to emigrate, etc.) all these can gravely **destabilize the economy** of the future. It is therefore necessary that the supply of special literature information has to be raised on governmental level in cooperation with the "modern information professionals". In this regard these professionals should act as **catalysts**.

In the present situation, in the region - including Hungary - governments have **already** started to withdraw partially from financing culture, and the market conditions are **not yet** developed to a sufficient extent for its substitution by an adequate information demand (economic backwardness). In all probability, a **transitory period** lasting several years can be expected in this regard.

The "modern information professional" in the region and the external cooperation in the development of the region has to assert a **selective development** in scientific information supply. Those institutions especially responsible for scientific information supply can be designated which by their function, traditions and standard seem suitable for the acquisition and processing

of the information. The bulk of libraries and information institutions has to be equipped with computers too to **"repackage"** and locally spread information among the economic interested people and institutions and among the creative professional. It is an unrealistic idea of spurious democracy according to which several dozen institutions should be able to function in the countries of the region, including Hungary, which should directly receive several ten thousand foreign primary periodicals and be equipped with a secondary computerized information system. This does not exclude the possibility that any economic innovation organization should import in accordance with its own specific requirements whatever it has money for, but it is not advisable to support this from governmental or international resources.

Financing

It is the selective development of scientific information supply that makes it possible or facilitates it that the development of primary special literature should not be financed basically only out of increments of the state budget but through the **more rational** utilization of the existing resources. The budgetary background of the keeping on level or development of the primary and secondary information should be investigated primarily in the institutions maintained by local government. Out of the World Bank and other international credit facilities more should be allocated to the public libraries, making up in this way for the possible shortcomings of local government funds. Without this the receptivity and the "information repackaging" are difficult to imagine. The various international assistance programmes, as e.g. the World Bank, the Tempus, the Phare and the national funds, as e.g. the Hungarian FEFA (Catching up with Europe Development fund), or the also Hungarian Information Infrastructure Development Programme make it realistically possible that the social service sphere of scientific information should be developed parallel with the information as a commodity sphere. The institutions designated for this purpose have selectively be made responsible for book and periodical supply, through adequate budgetary allocations. The categories designated on the basis of selective development can by and large be the following (of course, with variations) in the different countries:

- national and nationwide multi-disciplinary libraries,
- nationwide special libraries,
- regional libraries with a significant holding and capacity of services.

Within these three categories cooperation in acquisition and services cannot only be imaged but is even indispensable and based on **common financial and professional interest**. All this makes possible the improvement of the whole of scientific information supply without the over-exertion of the governmental budget, the increase of its standard, its **positive** influence on the **economy**.

For this it is further necessary that for the purpose of the bringing about or development of the **"information industry"**, the establishment of information brokers should be encouraged through credits, loans, other preferences, as well as the initiatives of libraries and joint ventures and companies which are suitable for such a role.

In sum: for the development of scientific information supply **governmental intervention** and **international assistance** are needed in the region. These **must not violate the market mechanism**, but **orient and influence it by market regulators** creating an optimum harmony between the public budget and the market.

Leonardo da Vinci imagined the ideal human proportion with four arms and four legs. The creation of the scientific information systems with cooperation by the "modern information professional" makes possible, extending Leonardo's ideas, the huge expansion of the intellectual potential of man and society, of their creative power, and consequently of their wealth.

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EDUCATION AND TRAINING AS A KEY TO PROFESSIONAL SUCCESS

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The Predicted Prospectus of the Information Profession

For Rutherford D. Rogers[1] 1986 the impact of new information technologies on library management, resources and cooperation was the greatest challenge which has to be accepted by all information professionals in the coming years.

Whereas Cronin foresaw the "gradual de-institutionalization of information provision", for him "the availability of cheap and increasingly user friendly computer hardware and software was going to facilitate and encourage distributed information processing within large companies". He also stated correctly as the second trend the shift from centralized to de-centralized information provision, particularly in multi-divisional and multi-site centres. Thirdly, he expected that information and documentation units were going to be treated as profit rather than cost centres. This might be correct, but with other results as foreseen[2].

The economic recession now affecting many of the developed countries has in many cases led to a decline in real terms on library and information services, and not only in the public sector. but also in the private sector. That means, that the profitability of information centres, may it be in Great Britain and even more so in Germany, has not been put into practice very often, even the reverse is true, as "companies cut back on what they deem to be a law priority expenditure they are likely to cut back on the library and information services they control"[3].

When British and German librarians and information officers met in 1990 in Cambridge to discuss the economies of library and information services they were proceeding in their discussion on the assumption that there is a bright future for library and information services[4].

Their discussion, however, was underlined by the belief that the future of information services was with the information centres and that the traditional libraries would either be turned to mere document supply centres of - as public libraries - would serve the entertainment needs of the public which could basically be neglected. The lack of a view to see information centres and libraries as a "condensed information structure" may be a great fault of the profession.

This year, during the 4th convention of the Catalan Libraries Information and Documentation Centres (there is **one** association) the Spanish and Catalan audience still believed that information is **increasingly** an important resource as capital, energy of employees' creativity which led to their demand to include "documentación empresarial"[5] in the program of library science and documentation studies.

The discussion of "Information Quality" and the "Question of Value" as central to the study of information transfer[6] has unfortunately entailed a more academic approach, leading to a discussion of terminology rather than to field research to a great extent, at least in some European countries, e.g. Germany.

The research of Mrs. Tudor-Silović, Miroslav Tudjman, Tribar Tóth and Jadranka Gabre "Information Manpower and the Knowledge of Industry in Yugoslavia: **Idealogy** and **Reality**" is defining the first doubts about the development of a "knowledge industry". Regardless of all public announcements and planning, the qualification of information manpower in Yugoslavia employed the traditional library and information infrastructure, thus neglecting the new sources, and bad enough, a new training for new demands and new users[7].

The Information Sector in the Eastern Countries broke down completely: Why?

The information sector in the former Eastern bloc countries was carefully planned in a centralized way as well as in a nationally overall structure[8]. The terminology of the information sector of the former Eastern bloc countries shows a somewhat peculiar surface. Partly the terminology was the same as used in Western Europe, but somehow different meaning, partly terminology was apparently determined by its source from a centralized and strictly hierarchic public planning. Besides all other difficulties, this phenomenon complicates the understanding between professionals[9].

Generally speaking, the overall planning was characterized on two general lines by a separate development of information units and libraries. The information units were within the responsibility of the Ministries or other governmental agencies or with the factories and enterprises which were also administered by the state, the party or the government. Libraries were also within the responsibility of the government, but were often not directly under a central governmental agency. Both sectors were caught in a hierarchical overall centralized structure and planning according to legislation. But whereas the top information units often received enough funding for their work[10], libraries very often did not and therefore reality and planning differed widely[11].

Up to this moment, all information units in enterprises and factories in Hungary, Poland, CSFR, the Baltic countries and also in the former GDR have nearly completely disappeared. That means, that in spite of a relatively well developed infrastructure and comparatively good funding, all those units were obsolete the moment the economic market changed. It is odd, that those units were also recognized as useless even when the structure did not immediately change and the owners remained the same. One might speculate that nobody really seemed to be convinced of the necessity of these units and their good work.

The central technical libraries have now to take over the task for the economic information[12]. I consider it a very important point for research to find out why all these units were breaking down completely, because of political reasons, question of infrastructure which was not fit to meet the needs and flow of information or were the new owners only too happy to give a task back to the public funding the moment it was costing money?

During an FID Workshop "Information Management for Information Service - Economic Challenge of the '90s", which was held in October 1991 at Gosen near Berlin, Mr. Zsolt Pinter, AGROINFORM, Budapest, Hungary[13], stated that the new owners of enterprises in Hungary do not need the information units because these enterprises often belong to international firms and are using their international network without wanting so much to share their knowledge with the national partners.

It might also be that the new decision makers are not acquainted with the use and value of information and therefore underestimate it, as Dr. Richter from the National Library in Prague

said[14]. The economical breakdown of those former Eastern bloc countries and the economic recession in the Western countries has led to the basically singular results - the total disappearance or decline of library and information services in the private as well as public sector. But information units have been damaged and threatened more severely than libraries as we saw it in the development of the Academy of Science in Berlin[15].

Future Aspects: Demand for a new Education

Oppenheim (see 3:3) gives a somewhat gloomy aspect of the job market which differs very much from the prospectuses only two or three years ago. He continues "it is a truism that the library and information professional increasingly require people with **extrovert, entrepreneurial personalities**, but that they continue to attract too great a proportion of introverted "bookish" people, this problem is mentioned in a number of recent papers (e.g. Hulkert, 1990; Banas and Heylman 1990). The problem lies in the image of the librarian, which remains a somewhat negative one, and the total lack of an image of information science which - if anything - sounds vaguely sinister and associated with espionage. This is a major problem for the profession, and my opinion is that the professional is in danger of serious decline unless it addresses this issue!

Peter Hogh, National Library of Slovakia, Matica Slovenska and responsible for the continuing education name almost the same three important points for future education of professionals: an **extrovert personality**, deeply interested in the environment of the library or information unit and who is able to respond to the needs of the community, **language skills** and a **positive attitude towards lifelong learning**.

Slovakia is nearly the only country of those interviewed which is quite content with its present professional education which combines in a quite efficient way practice and theory, as Dr. Tibor Trgina told us[16]. This was also confirmed by the chair of library and information science of the Cominious University at Bratislava[17].

The Integration of Academic Approach and Internship seems to be the Answer: Library and Information Science is not a "Science"

It looks as if not only the response to questions and information needs to be carried into the information unit but the involvement of the information officer in the life of the community, may it be a cooperation with a university or a city is the **main** demand for a new professional image.

Every student of the University of Ulster at Magee, Northern Ireland, has to work either in industry or in an enterprise for one year, which is especially important for the information professionals. As the Provost, Prof. Robert Galvin, pointed out to his ten German visitors in February this year. Professors of this university have to provide the students with those working possibilities, being part of the employment contract of the academic staff. It is intended to ensure closer ties between the university and the community, and thus pursue the overall goal of the economic and social recovery of the region which is also the underlying concept of the national policy[18].

Dean Michael König, Rosary College, River Forest, Ill., USA, comes to a similar conclusion "The times are changing and graduate schools of library and information science must change with them. A central theme in almost all of the closings has been the failure of the school to weave itself into the larger structure of its parent academic institution and to adapt by collaborating with other academic units[19].

The second demand for the future education: language skills will become more and more urgent with the European, even more so global network of an information structure. Not only the access to databases but also to simple information is determined by language skills and the command of foreign languages. The discussion of a multi-cultural society is often basically a discussion of language skills, although very often it is not discussed openly[20]. A very good example for a very strict demand of language skills is Estonia, where up to now a PhD in library and information science could only be acquired in Russian, and all libraries have two sections, according to these two languages[21].

A European cooperation and the necessary resource sharing will rely heavily on language skills as the records of a meeting of Euroregio Libraries show[22].

The non-professional determination and carrier of the professional education in Germany will prevent a smooth European integration and probably cause turbulences as Heinz Marloth describes in[23]. He states blankly that a modern curriculum for an information professional does not exist in Germany:

> "Lehrpläne und Curricula
>
> Lehrpläne für die BID-Ausbildung gibt es in Hülle und Fülle; jedoch ist bisher noch nicht ein einziges deutsches BID-Curriculum publiziert worden, das 1. inhaltlich und methodisch mit den Curricula der Ausbildungseinrichtungen anderer Länder kompatibel wäre und 2. den Anforderungen an ein modernes Curriculum auch nur ansatzweise genügt. Das ist möglicherweise ein Grund dafür, daß - wie Stoltzenburg feststellt - "wie gegen EDV und betriebswirtchaftliches Denken (...) vom höheren Dienst (aufgrund seiner unreflektierten Mentalität) auch überkommene Barrieren gegen eine konsequente Benutzerorientierung bibliothekarischer Denkweise bis heute nicht wirklich abgebaut (worden sind)".
>
> Die Bemerkung von Pflug: "Sicherlich, sie (die Fachhochschulen) haben alle die elektronische Datenverarbeitung in ihre Lehrprogramme eingeschlossen. Doch lassen sie es mich etwas vereinfachend auf einen Nenner bringen: Sie bilden Terminalbenutzer aus..." hätte die Ausbildungseinrichtungen eigentlich elektrisieren müssen.

This shows clearly, that a structure mainly determined by administrative and hierarchical rules for functioneers prevents the shaping of a modern curriculum which is obligatory for a modern professional image. This is per se unfortunate but is also prevents a lifelong learning, which I consider the most unhappy result of such an approach.

Therefore, the recommendation of a "Integration europa-orientierter Lehrinhalte in bestehende oder neue Studiengänge"[26] remain dim and with consequences. How can anybody hope to integrate such contents in a curricula which are not determined by professional but by administrative rules.

The discussion about curricula and about subjects being taught has to be replaced by a discussion about the aims and objectives of such an education and training. Only with such a complete shift, training and education might be shaped according to the urgent necessities and the image of the profession.

All discussion of the future profession has to be led by the "result" which the profession is aiming at. What kind of professional philosophy, what kind of personality shall be educated and trained. What place will the profession take. Sometimes, I presume, professionals have to think over that they (fair enough) are studying library and information sciences, but as a result they must plan an important role and deliver a service.

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10. e.g. the "All Union Institute" in the former Soviet Union.

11. See the paper in "Von einer zentralistischen Bibliothekspolitik zur Zusammenarbeit in Europa". Vorträge eines Seminars in der Kurt-Schumacher-Akademie der Friedrich-Ebert-Stiftung, Bad Münstereifel, 19.-22. Februar 1991. Prague 1991. 125 p. All papers stress the total collapse of those systems.

12. This point was discussed with Dr. Szarski, Central Technical Library at Wroclaw, Poland, Mr. Konrad Kikas, Director of the Technical University Library, Tallinn, Estonia, and Dr. Andrović, Central State Technical University Library fo Bratislava. Dr. Andrović told us, that his library had always provided this information, therefore at least it is available there, whereas due to the short time of our talks and visits, we could not receive any information where all the material of those broken-down information units is deposited.

13. AGROINFORM is the information unit of the National Agriculture Library of Hungary. It is also in difficulties.

14. Richter, Vit: Access to Information In Times of Social Change. In: *East-West Information Transfer*, 1991, pp. 25-31.

15. The information network of the Academy of Science in Berlin-East consisted of one library and two information units: Zentrum für Gesellschaftswissenschaftliche Information (social science) and Wissenschaftliches Informationszentrum (natural science, technology). Both have disappeared. The rest of the Zentrum für Gesellschaftswissenschaftliche Information has been integrated in "Informationszentrum Sozialwissenschaften" (Social Sciences), Berlin Branch. The library is still in operation and will remain so.

16. The Secondary School of Librarianship, Bratislava. Address: Kadnarova 7, 83423 Bratislava.

17. The Mittelschule (Highschool) provides with its final examination the basic skill for library and information work (also information technology as well as language skills). After final examination students may either go directly to the university or to work and continue university after some time. The continuing education (Hogh) and university cooperate closely. A very similar approach for a reform of the university was proposed in an article in the "*Zeit*", Mai 1992, by Wolfgang Nowak: "Ein Schnuller bis zum 30. Lebensjahr".

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Section I: Asia and Oceania

DARWINISM EXTREMIS: EVOLUTION FOR SURVIVAL

A new breed of information professionals for the 21st century

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Introduction: A Profession at the Crossroads

As the dawn of a new century approaches with almost indecent haste, the information profession faces a watershed, a cross-roads. The right choice will ensure continuing relevance, the wrong one will condemn many information professionals to a declining importance in their society.

Looking back over my own 30-year perspective of the profession, I can only be amazed and impressed at the changes wrought by both individuals and professional bodies in the face of societal shifts and changes in the technical, social, political and economic environments within which information professionals have found themselves.

However, the pace of change continues to quicken, while the extent of change is expanding exponentially. The Information Profession must rise to these challenges, or face banishment to the fringes of a new knowledge-based society in which most individuals are empowered by technology to manage and control their own information needs to a degree almost beyond comprehension even now.

The information science literature has given rise to the concept of the Modern Information Professional, ascribing to this newest iteration personal and professional attributes aimed at addressing these changes.

However, if one accepts the notion of an information professional continuum, then these descriptions of the Modern Information Professional represent little more than a slight adjustment of position on the continuum, with the classic role of intermediary still paramount and much of the information managed being discretionary in nature.

What is needed is a paradigm shift, re-defining the nature of the continuum to encompass information production in all its forms as well as all manner of information delivery and information consumption. What is needed also is a recognition that the future of the information professional encompasses a far wider range of possibilities than is typically canvassed in the literature, roles that are 'off the scale' of the continuum as currently defined and roles that increasingly deal with information that is core to the functioning of the organizations and individuals consuming it.

It is important to realize that this widened range of possibilities is not founded in futuristic speculation but in the current realities of many non-traditional and emergent roles for information professionals, as experienced or observed over much of my career, and in the emerging trends that I see from my vantage point in the information technology industry.

The rub of my argument is that is the convergence of the dramatic progress in the decentralization, indeed diffusion of information consumption (what I have termed

'personalization' with the existing examples of non-traditional roles being filled by information professionals, that **created the potential** for the emergence of a highly-influential and sustainable role for a truly modern information professional.

A paradigm shift is needed, rather than an evolutionary or gradualist approach, as the gap between roles and needs has widened dramatically in the past decade and yawns cavernously as we approach the new century.

Four key issues are addressed in this paper:

(a) the changing nature of information delivery and consumption
(b) changes in the technological, economic and societal environment within which the information profession exists
(c) current traditional and non-traditional roles of the information professional
(d) new roles for the Modern Information Professional, with particular emphasis on the areas of information production, information policy, information architecture, information value and core information.

Participate or Perish: The Challenges

The information profession, whether it be practiced in an industrialized or developing economy, is facing enormous challenges. These cannot be ignored - the only valid response is to seek to maintain relevance and function by adapting to these changed conditions.

The changing nature of information delivery and consumption

The most notable, and most insidious, challenge is contained in the rapidly accelerating trends in the delivery and consumption of information. This is most notable because of the extent of change and most insidious because it has not attracted the widespread attention of the information profession to the extent that it should have, given its fundamental importance to the profession's future directions. Further, where it has attracted attention, the responses are to my mind, narrow, gradualist and thus quite inadequate.

These trends, of which there are six that are pivotal, all interlink to create quite a different and challenging environment.

The first trend is diffusion, with information consumption occurring more at the individual or end-user level, via delivery mechanisms that by-pass the classic role of intermediary filled by the traditional information professional. Equally concerning, the literature, where it recognizes this trend, uses the terms 'de-centralization' and 'de-institutionalization', both of which fall for short of the dimension of the change.

It is a simple fact that a finite quantity of information professionals are prevented by quantity, time and distance from serving as intermediaries in these circumstances.

The second trend is incorporation of information in all products, services and activities, contributing to the diffusion of consumption as the oft-heralded knowledge-based society comes closer to reality.

Thirdly, the trend to integrated content and technology, as evidenced by the CD-ROM that carries both the information and user-friendly search language, or the globally accessible online

database, enables the individual to access and consume the information without the aid of an intermediary.

Fourthly, as noted in some of the literature, advances in end-user computing are accelerating rapidly, enabling the diffusion, and contributing mightily to the dis-enfranchisement of the traditional information professional.

Fifthly, as the perceived value of information increases in both the industrialized and developing economies, the costs of the new technology and packaging are becoming increasingly acceptable and affordable, thus generating further demand. Whilst this increase in perceived value also gives rise to fee-for-service information provision, this remains within the narrow bounds of the intermediary role and thus provides no answer to diffusion.

Finally, all of the above trends combine to move the consumption of information outside the traditional four walls, but so far outside the walls that the information professional is challenged fundamentally in seeking continued participation.

Environmental changes

These changes in the delivery and consumption of information stem from changes in the information profession's technological, economic and societal environment.

The changes in computing and communications technology underpin changes in the pattern and nature of delivery and consumption. The very nature of computing is itself undergoing a sea-change. The advent of the personal computer a decade ago and the workstation much more recently have combined to create an enormous change to the fundamental architecture of institutionalized information technology.

The highly centralized computing facilities of the 70's and 80's are fast giving way to highly de-centralized, distributed processing facilities, often including large numbers of portable end-user devices (hand-held data capture units or lap-top computers). This part-decentralization, part-diffusion is being enabled by matching improvements in telecommunications capability.

The key economic determinant is demand. In both the developing economies and the newly industrialized nations, the speed of change is necessitating and causing a leap-frogging of experience curves, generating both a high demand for information and a clear understanding of its value, in the context of national development priorities and objectives.

In industrialized nations, the upward spiral of sophistication of technologies continually raises expectations of the speed and quality of information delivery whilst feeding the demand for empowerment of the individual via diffused, personal computer-based consumption.

The increasingly rapid uptake of the technology is in turn being driven by improved cost-to-performance ratios, which are delivering more capability at lower cost, thus extending the bounds of the possible and generating the increased demand.

Economic growth, in nations in all stages of the development cycle, generates demand in society for more information. Societal changes, be they in terms of educational skills, values, work patterns, or recreational choices, are accelerating to meet the needs of the knowledge-based society demanded by economic growth and enabled by technological change.

Interestingly, much of the societal change is predicated on the increased empowerment of the individual.

The expanding role of the information professional in modern society

The traditional view of the information professional's role is that it consists of a continuum having three basic components, i.e. acquisition, storage and retrieval, with institutionalization as a basic tenet. The literature is now calling for a departure from this custodial role, adoption of a more proactive stance to meet modern information needs. However, the traditional responses proposed or practiced retain the role of intermediary. Other, non-traditional responses that exhibit a mixture of intermediary, intercessionist and production-influencer roles, go much further towards modern and future needs.

Traditional responses

The literature achieves common ground in defining three major categories of 'new career' outside the traditional roles of the information professional, viz., information broker, information technology consultant and information management consultant.

Also gaining frequent recognition is the concept in the literature is the concept of the information professional as intrapreneur/entrepreneur, adopting commercial or free-for-service approaches, but doing so predominantly in disappointingly traditional activities. Whether intra- or entrepreneur, in most cases the traditional response still leaves the information professional as an intermediary, albeit a more proactive one, dealing invariably with material produced by others for varying purposes.

The major non-traditional elements contained in this otherwise traditional response are the needs for business and sales skills, which, some could argue, should be present in any successful traditional information service.

Non-traditional roles

The management role of many librarians both develops management skills and provides the opportunity for these skills to be demonstrated within the parent organization. It is frequently the case, particularly in academic institutions, that librarians are called upon to manage other functions within the parent organization, such as bookshops, computer operations and audiovisual centres, while my own experience in a third world environment included responsibility for some 300 staff houses and a satellite groundstation.

In a smaller number of cases, librarians move to substantive management roles elsewhere in the institution, including Head of Educational Resources, Registrar and Deputy Vice-Chancellor.

Other non-traditional roles for information professionals that I have experienced or observed fall into the production sector of the marketplace. As recognized by the literature, information professionals are recruited by software houses, database vendors and publishers.

Predominantly, information professionals employed in these types of organizations bring to their employer professional skills, market knowledge and a ability to talk the language of customers and potential customers. They tend to be deployed mainly in marketing, sales and customer support roles, with business and sales skills normally being acquired on the job.

Where the database contain bibliographical or text records, the information professional's core skills are brought to bear on the database content in much the traditional way. However, where the database contains statistical or financial data, which is not only subject to enquiry but also processing, the information professional is taken beyond retrieval to analysis, a quite different role.

Employment by database vendors provides more scope for information professionals to influence design of the record structure for online databases and, in the case of software houses marketing library management packages, to specify functionality and, more rarely, to undertake design or programming.

Print publishers make use of information professionals in roles such as editor, author and sales representative, drawing on a mixture of individual aptitude, recognized skill sets and market knowledge, whilst information professionals play key roles as designer, technical writer, etc., in multi-disciplinary teams involved in the development of multi-media publications.

An recent example which spans several of these models is a former librarian now responsible for the technical and operational management of a national companies and securities database, a role that draws in a far greater proportion of information technology expertise.

Directions for survival

The newer breed

As argued earlier, the diffusion or personalization of information consumption creates both the challenge and the opportunity for the emergence of highly-influential and sustainable roles for a truly modern information professional.

The literature identifies some of these roles, e.g., consultant, educator, facilitator, enabler, translator, creator of interfaces and tools, and even goes so far as to identify the role of change agent. Where it falls short, however, is in offering convincing views of how information professionals can make the transition. The focus tends to be on questions at the task and skill level, whilst retaining the basic assumption of an intermediary role.

The way forward relies on an interventionist view and an acceptance that the area of maximum influence is in the production sector of the information continuum.

The Information Professional continuum re-visited

Taking the information continuum in its simplest form, consisting of three primary sectors - production, delivery and consumption - most traditional and most non-traditional responses clearly remain within the 'delivery' sector. Most steps forward have tended to be directed downstream, reaching out from the four walls of the institutionalized information service to the information consumer. This is equally true for the information broker and for the barefoot librarian taking information to remote villages in the form of play-acting and story-telling.

The adoption of proactive stances, fees for service, outreach service providers, all retain the role of intermediary and, while some upstream (i.e., production sector) roles are identified in the literature, the recurring theme is one of seeking ways to influence the production sector.

However, the intermediary model breaks down when the delivery channels become so diffuse as to make it virtually impossible to reach all the personal information consumers.

The answer for part of the profession is to move upstream, intervening in the production area, infusing formal information science into architecture, design and development of not only the information and the delivery media but also information planning and policy. The opportunity for influence is far greater, as a single input is amplified greatly be being broadcast across a total user community and the process is accessible at this stage, whereas downstream, access and thus influence becomes impossible. Information professionals involved in the design of databases and library management software have already achieved this position of influence.

These are three particular areas for the modern information professional that represent, in my view, the most productive directions for the information profession to be relevant and influential in order that it not only survive but also prosper as we enter the next century. They are policy, architecture and value. While the first is well represented in the literature, the latter two extend the debate considerably, if not break new ground.

Relevance and influence - 1: Information policy maker

The first, that of information policy maker, is well represented in the literature emanating from less-developed economies and my own experience in the third world supports the view that the influence wrought can be out of all proportion to the effort and resources applied. It is certainly the case that the professional training and the globalist nature of the professional enables information professionals in developing countries to take leading roles in the formulation of the information policies and planning so necessary to support the rapid economic growth and social change experienced in the transition to newly-industrialized economy status. In this way, they certainly act as change agents.

Relevance and influence - 2: Information architect

In both newly-industrialized and post-industrial economies, the key position of maximum influence for the modern information professional is not as purveyor but as designer, working in the production and delivery sectors of the information continuum, in a role I have dubbed as that of **information architect**.

The database designer represents one trend of the spectrum of information architect. However, at the other, far more complex end, sits roles that are still emergent, roles that deal with information flows and information transfer, and the concomitant design of the structure of units of information involved activities such as automated stock exchanges, global banking and airline reservation systems and in technologies such as electronic data interchange (EDI), and computer-aided logistics support (CALS).

The other key dimension in this concept of the information architect is that, operating in this arena, the information professional is not only dealing with core business information, rather than discretionary, external information being brought to bear on the conduct of the business. The information architect is thus part of what are termed 'mission-critical systems', and can hardly be more relevant and influential.

Relevance and influence - 3: The information valuer

A vital dimension to the work of the information architect is to establish a sustainable, well-accepted valuation of information, or a cost/benefit case supporting an information architecture project. The inability to do so, for a whole range of reasons, lies at the heart of the survival challenge for much of the traditional area of the information profession.

My extensive work in recent years with EDI strategies has served to solidify in my mind the concept of the role of information valuer. As noted above, the information architect tends to be dealing with core business information. However, like the forms of discretionary information more typically handled by information professionals, core business information is currently handled in very traditional ways.

The changes resulting from distributed processing, electronic trading, the globalization of business activity and other demands of improved information flow call for management to make business and investment decisions predicated on the value to the business of changes in information handling. In the case of EDI, the changes in information handling enable, and in some cases cause, fundamental changes in business processes.

The role of information valuer is to find a way through this most complex maze and deliver a business case to justify the utilization of these new information handling techniques. The information valuer must combine business skills, knowledge of the technologies and - most importantly - their business impact, with the ability to distil the business environment and convey the case cogently and effectively (in other words, to sell it). Done well, this is leading edge. Currently, it is not always done well and very rarely undertaken by information professionals.

As a current practitioner of the roles of information architect and information valuer, I regard the scope for information professionals in this role as absolutely enormous.

Conclusions

The environment is generating change and the 'new breed' role exist and are being filled, but not necessarily by information professionals - in fact, the information professional is currently the exception rather than the rule in these roles.

Given the foundation skills and concept of the traditional functions of information professionals, they are arguably well equipped to fill these new roles. Fully qualified for them they are not, but the roles of information architect and information valuer are so new and so fluid that no fixed set of formal training exists for them.

Indeed, this is not such a bad thing, as the final tenet of my argument is that, in the twenty-first century, if not before, people will come to these new Modern Information Professional roles from a wide variety of backgrounds and will need to acquire an equally wide variety of specialist skills to equip them to tackle various tasks, projects and endeavours. Thus, flexibility will be key to successful performance of these leading edge roles.

It is clear that these roles, whilst perhaps best filled by information professionals, are both pivotal and open to many others. Therein lies the challenge to the information profession - adapt, change, evolve rapidly and dramatically, or fade to the discretionary edges of the truly knowledge-based society.

INFORMATION PROFESSIONALS IN MALAYSIA: ROLES, CAREERS, AND DEVELOPMENT

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ABSTRACT: The roles, careers, and development of modern information professionals within the Malaysian context is closely related to the state of the economic development. The rapid progress of the public sector as well as the private sector have been followed by the development of more libraries and information centers and this naturally increase the need for more information professionals. Two distinct factors that determine this development are, the increasing roles of national and public libraries to inculcate the reading habit of the people, and the increasing roles of government and non-government agencies in research and development (R&D), in line with the government's vision towards achieving the status of a developed nation by the year 2020. The profession of librarianship was not well known during the pre 1970s but by 1980s it was well established as a career. The country could not progress effectively without the support of information service. The steady economic and industrial growth have changed the custodial role of information professionals into a more dynamic and proactive one. The application of new information technologies in libraries and information centers has also influenced the information professionals' role in the storage and transfer of information and user education. A 'new breed' of professionals like, information officers, records managers, information consultants, information analyst or others are formed. It would also be interesting to see how the country attempts to meet these new challenges, not only for more manpower, but also for professionals who could cater for the changing information needs. This paper would thus, attempt to discuss the varied roles of information professionals in Malaysia, amidst the changing societal needs; environmental changes; and technological changes.

Introduction

The information profession in Malaysia was virtually unknown during the pre 1970s, but it's popularity began to be felt by mid 1970s and by mid 1980s it was well established as a career. The types, career opportunities and the roles of the information professionals (IP) have by now evolved. Within the space of four decades changes have taken place in line with what are happening in the developed world. The fact remains that the country could not progress effectively without the support of information services. The steady economic and industrial growth have removed the custodial role of information professionals and Information Professionals in Malaysia replaced by a more dynamic and proactive one. The application of new information technologies in libraries and information centers have also influenced the information professionals' roles in the storage and transfer of information. This paper attempts to discuss the varied roles of information professionals in Malaysia along the path of societal needs, environmental, and technological changes.

The Development of the IP Career in Malaysia

The roles, careers, and development of modem information professionals within the Malaysian context is closely related to the state of the economic development since independence in 1957.

The rapid progress of the public sector as well as the private sector have witnessed the increasing number of government departments, research centers, educational institutions, and industrial activities. In the industrial sector, for example 21,102 private and public companies were incorporated in 1991 alone, reflecting confidence in the economy. Between January and April 1992, the Registrar of Corporation approved 16,755 new companies, compared to 12,587 in 1991 in the same period of time.'[1] These phenomena have been followed by the development of more libraries and information centers and this naturally increases the need for more information professionals. Two distinct factors also determine this development. One, is the increasing roles of national and public libraries to inculcate the reading habit of the people, and two, the increasing roles of government and non-government agencies in research and development (R&D), in line with the government's vision towards achieving the status of a developed nation by the year 2020.

Role of Government

Vision 2020

Any attempt to discuss Malaysia's progress into the 21st century, including human resources may not be complete without mentioning the Vision 2020, a policy and plan introduced by the Prime Minister, *Dr. Mahathir Mohamad*. This Vision envisages to achieve certain economic targets within a 30 year period with the goal of reaching a fully developed and industrialized nation status. IP involvement as change agents towards the year 2020 is recognized, resulting in the urgent need for more IP with varied capabilities to meet the new demands of the patrons.

The *National Policy in Library and Information Services*, passed in 1989 provides a vehicles for systematic and planned progress in the library and information services, in line with the national development. Effective support is given for:

a. the policy formulation and decision making process;
b. planning, research and development activity;
c. the educational process;
d. the intellectual development of the people, their economic activity and the fulfilment of their cultural and recreational needs

Within the context of nation-wide development of library and information services, this policy acts as a framework for the:
a. education and training of information professionals in the country;
b. training of the right kind of manpower, in terms of qualifications, knowledge, attitudes and skills;
c. opportunities for exposures and continuing education for information professional;
d. provision of staffing of library.

The Role of National Library

The National Library of Malaysia has a significant role, not only in the preservation of Malaysian publications, but also on matters relating to planning, training and coordination of information

[1] *New Strait Times*, 20th June 1992

services and information personnel with the objective of upgrading professionalism in Malaysia. Some of their strategies are[2]:

1. To strengthen library and information infrastructure within the country by setting up more libraries in the cities, towns and villages so that all Malaysians will be able to enjoy library facilities and services that are within their reach. It is also involved in the balanced development of, and achieving a standard for public and special libraries.
2. To ensure that all libraries are managed by qualified librarians and information staff and to achieve minimum standard of services.
3. To intensify in-service training and continuing education for library personnel.

The above governmental backing is indeed a crucial factor that has determined the encouraging pattern of development at present, while at the same time leading to the right direction as needed by the information profession. The National Library has, not only provided a popular market for the local library graduates, but also initiated in-service training for the newly recruits and also active in organizing continuing education for IP from time to time. One characteristic in the development of IP in Malaysia is the increasing demand to fill the traditional market - in national, academic, public and special libraries. Another characteristic is the demand of IP to fill the emerging market - business and industry, banking and finance, broadcasting and television, state and legislative assembly,and research centers.

Roles of Public Libraries

Perhaps, the most pressing role of IP attached to public libraries is the inculcating of the reading habit of the people. With almost all the public libraries having or in the process of getting new buildings the need for more qualified IP is imminent, opening an avenue for staff development. Moreover, the Malaysian government has approved half the public libraries' operating budget beginning from 1992. Career in the public libraries is not only directed towards the provision of information for the purpose of improving society's living standard through reading, self-learning and continuing education, but more so in the increasing the reading habit of society, especially amongst children and youths. The reading interest rate of the Malaysians is still very low because reading culture is regarded as a new phenomenon. In fact, the overall results made from numerous studies on reading interest revealed that Malaysian only read at the rate of one page of a book per year. To this effect, inculcating reading habit is regarded as critical role of the IP involved in the public libraries. At the same time, the IP serving the public libraries are expected to spread literacy and enlightenment in all category of users through the life-long learning media.

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[2]Shahar Banum Jaafar. Planning Human Resources Requirement For Malaysian Libraries in Public Sectors. Petakling Jaya, IIU, 1992: 9-10.

The Role of Special Libraries and Information Centers

The evidence revealing the need for a more specialized demand for information and a more active roles of IP in the information industry in Malaysia has been realized since the 1980 *Seminar on Information for Productivity and Development*.[3] In this seminar, the roles and importance of information for the success of the implementation of multifarious functions of the economy was emphasized. Subsequently, one of the resolutions was, "all government agencies, statutory bodies, commercial and other organizations set up libraries and information centers, with professionally trained staff and adequate funds."[4] The seminar showed the different roles expected from the IP on the basis of the kind of information that is required by various organizations, as listed below:

Role of IP to cater for the following information needs:
- Formulation of Socio-economic Policy of Malaysia
- Members of Parliament
- Social Engineering Process
- Planning and Implementation of Educational Policy in Malaysia
- Planning and Implementation of Agricultural Policy in Malaysia
- Science and Technology
- Control of Social and Environmental Information
- Planning and Implementation of National Policy on Malaysian Industrial Growth;
- The Growth of the Manufacturing Sector in Malaysia;
- Banking and Financial Institutions.

What is significant about this point is that, the sophistication of the information seeking behaviour of the communities has gained its momentum even by the year 1980. And by the 1990s, users information needs continue to increase as evidenced in the later findings.

Growing Number of Government Departments

The rapid progress of the public sectors witnessed the increasing number of government departments. There are 24 government ministries and under each ministry are numerous government departments, state departments and statutory bodies.[5] The setting up of more government departments have, at the same time witnessed the setting up of more departmental libraries. The continued economic growth has led to the emergence of new institutions in the public as well as the private sectors. It was inevitable that information become greatly needed to speed up the process of development. Although special libraries and information centers in Malaysia are not visible to the general public, they play a very significant role in the development of society through the services they render to their parent institutions.

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[3]Information for Productivity and Development, edited by Oli Mohamed and Wong Tuck Cheong. Kuala Lumpur: MARUZEN, 1983:257.

[4]Ibid.

[5]*Information Malaysia 1990-1991 Yearbook*. Kuala Lumpur: Berita Publishing, 1990.

The increasing roles of government and non-government agencies in research and development (R&D), is in line with the govemment's vision towards achieving the status of a developed nation by the year 2020. In order for them to successfully conduct their research within reasonable time and within reasonable financial limits, these organizations would need libraries and information centers with all the relevant and current information managed by qualified IP. Since the objectives should be closely related to the needs and mission of the parents organization and the information needs of the personnel, every possible mean has to be formulated to gain access to information, including through networks, interactive computer systems or application of new information technologies. It is recognized in Malaysia now, that by providing fast and relevant information, organizations could save thousands of dollars that might be lost through duplication of research that may have already been undertaken elsewhere. The recognition of the special libraries and information centers as important organs of the organization has speeded the growth of libraries and this offers another bright avenue for the IP.

Parliament Library and the Stale Legislative Assembly Libraries

1992 open another era in the in the development of Parliament library systems and its networks. The members of Parliament and the State Legislative Assemblies are the 'vehicles' deciding on the policies and the administration of the government. The need for an effective information services is regarded inevitable and a major study by a few members of the faculty of SILS, ITM with the objective of upgrading the Parliament library and the establishment of the State Assembly libraries is underway. Efficient and proactive information services are expected of the IP because the policy makers have fixed and busy schedules.

Role of IP in Private Sectors

Industrial Activities

Within the context of industrial communities where profit is a priority, information is seen as a commodity, not so much of knowledge or wisdom needed in educational institutions.

Hence, the IP are expected to be capable of finding, not only information in whatever format but also expanding the information boundaries to include interpreting the sources, extracting, and reorganizing its information into a new synthesis and usage. This value added information is seen indispensable in certain business commitment and it is to be expected that the concept of information analysis center would be in existence in time.

Management of business requires multifaceted information that can best be provided through a well organized information services. The state of the art in the Malaysian scene indicates the increasing realization on the part of the management on the need for organized information storage and usage. In a well set up business organization, like the *Petroleum National, the Malaysian Airline System, Kuala Lumpur Stock Exchange,* and the *Malaysian Rubber Research and Development Board (MRRDB)* it has in its components the responsibility for R & D, manufacturing, marketing, finance with a well coordinated information structure, staffed by qualified IP. In fact, "A multitude of career opportunities have also sprung in non-traditional private sector. The need for designers, producers, and promoters of databases has created a new line of professionals (see

Table 5). Information searching, packaging and marketing have become opportune choices for the new breed of IP.[6]

School Libraries

The setting up of libraries in all schools is something that is regarded as a norm. Yet, the employment of professional librarian has been an issue no one wishes to take any responsibility. While the authorities recognized the need for and potentials of professional library officers, financial constraints is the only answer given for not employing one. While this excuse may seem reasonable in view of the vast number of schools, it is not considered as rational in view of the fact that the intangible returns that could be obtained from effective library services has indeed a long-term benefit. This has been the reason for the relentless effort on the part of the library community and the library school to pursue this matter with the Education Ministry for the implementation of a scheme, enabling a qualified Teacher Librarian be employed in the schools.

One of the ways of upgrading the academic performance of the indigenous population is the government's inception of a boarding college system, preparing students for the high school level education and/or the matriculation. Students with high academic performance are enrolled in these colleges, known as the Junior Science Colleges. *Libraries in these colleges however, employ professional librarians. Given this as a precedent, it is hoped that a scheme would be started whereby the ordinary public schools would follow suit.* Malaysia,by contrast to the United States, seemed to be lagging behind in large-scale practical applications of computer and other technologies in school libraries, but a firm theoretical and research framework appeared to be emphasising the concept of resource centers with computers and software packages as teaching and learning tools. This is another skill that the prospective school librarians are expected to have. The fact that no IP are employed in the Malaysian ordinary school libraries is seen as a reflection of a bright potential ahead in the career of the IP in Malaysia.

Institutions of Higher Learning

"The ability to find, evaluate, and use information effectively in professional lives," by the users has been the goal of all academic libraries in Malaysia, amidst the changing roles of libraries from the old custodial type. The university libraries are by far the most developed,the most staffed, well budgeted, and well established by virtue of its status as centers of higher learning. Hence, they are the forerunner of the information profession in the country. At present, all academic libraries are in the process of automation, notwithstanding the application of advanced technologies. Two phenomenal developments are taking place as well in the academic institutions. The population explosion has made it impossible to house increasing number of student population, while the proliferation of subjects disciplines and knowledge explosion have induced universities to branch out all over the country. As such, as seen in Table 1, a network of branch libraries are growing along the branch campuses. This phenomenon requires a hierarchy of library personnel, thus adding further scope for the IP. The same is also true with the private colleges.

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[6]International Islamic University. Department of Library and Information Science: catalog. 1092.

The Rise of Private Colleges

The liberalization of the country's education policy has opened the door to the rapid growth of private sector participation in professional, semi-professional and academic education."Private education today has become a multi-million dollar enterprise. Parents are spending vast sums of money sending their children to private kindergartens, primary and secondary schools as well as to colleges to obtain higher academic, technical, and professional qualification through various arrangements such as a twinning and split-degree programme."[7]

INSTITUTIONS	Number
Agriculture University of Malaysia	1
Mara Institute of Technology	9
National University of Malaysia	2
National University of Technology	1
Science University of Malaysia	2
University of Malaya	2

Table 1. The number of branch campuses in Malaysia in 1992

One report shows that the number of registered private institutions are 302. Out of this figure, 208 provides certificate, diploma, commercial and secondary education, while 69,provides degree courses, and 9 provides certificates and technical diploma.[8] However, this number has increased drastically and the popularity of these institutions has attracted students from the neighbouring countries. According to the *National Association of Private and Independent Educational Institutions*, there are 800 private colleges now, serving 260,000 students in variety of courses.[9] Libraries, being the 'nerve' of any educational institution has so far been given priorities and more of these institutions are employing at least one IP. Well established private college libraries employ more than one. This latest development is a boost to the career of IP in Malaysia, where private institution was once not well regarded and the number was very scarce.

Library Association of Malaysia

The Library Association of Malaysia or the Persatuan Perpustakaan Malaysia (PPM), being a professional body representing the country's IP has a unique contribution towards the promotion of the information profession in Malaysia. Besides acting as a pressure group,one important role it has successfully undertaken is in the area of continuing education,conducting courses, talks, seminars, conferences and workshops. During the absence of the local library schools, one its main roles of the LAM was to help and encourage the library personnel attain their professional library qualification. With the help of the British Council, classes leading to the ALA examination

[7]"Private Centres.." *New Strait Times*, 24 February 1992

[8]*Utusan Melayu*, 15 May 1992

[9]"Institusi Swasta," *Berita Harian*, 13 March 1992

were conducted during the period 1960s and 1970s by practising professional librarians. Their effort has produced a number of successful librarians in Malaysia. At present, it has a representative on the Advisory Panel of the SILS, ITM and also contributes in a form of annual award for SILS, ITM Best Student of the year.

Profile of an Information Officer

In the organizational structure of the special libraries or information centers, the information officer forms part and parcel of the success of the parent organizations or business corporations. The IP has a crucial role to make the clientele aware of the information resources that can be gathered and the services that can be offered with the objective of aiding decision-makings. He/she is also expected to apply his/her expertise, give advice and recommendations, while acting as an intermediary and facilitator at the same time. As an information provider, his/her important role is to collate currently scattered information and apply modern technologies. It is also imperative that he/she should help managers to obtain information by enlightening them as well as guiding and showing them the methods of organizing and using information when required. With the establishment of the Malaysian Center in Science and Technology more trained IP are needed along the line of the information officers in the Tun Ismail Atomic Research Center, a post established to help develop an information center to support the organization.

Career and Employment Opportunities

To ensure the best possible use is made of the educated and trained IP, manpower planning has been carried out. Its objective is not only to know the number of IP to be trained but also the demand as well as the type of IP needed by the market. Evidence from the surveys undertaken by the SILS ITM indicates an increasing recognition on the role of the IP in Malaysia. The *ITM-UNESCO Manpower Survey of Libraries, Information Services and Archives in Malaysia, 1986*[10] indicated that the need exists for a wide variety of IP. In fact, for the period 1986-1990, 441 IP in different information specializations are needed as illustrated in Table 2.

Types of IP	Number	Specialization
Information Officers	186	Knowledge of Computer and Usage; Automation;
Documentation Officers	94	Systems Design and Analysis; Information
Research Assistants	83	Systems Managements, Data Processing, and
Records Managers	7	Records Management.
Total	441	

Table 2. Total number of IP for the period 1986-1990 and areas of specialization
Source: Notma Abu Seman, Molina Nijhar, Nick Moore. *ITM-UNESCO Manpower Survey of Libraries, Information Services and Archives in Malaysia. 1986.*

In 1989, the National Library conducted a survey involving 600 libraries. 450 libraries responded and this data showed that since 1982, there was an overall increase of 63% for public libraries, 147 percent for academic libraries, and 58% for special libraries, as seen in Table 3. Another 159

[10]Norma Abu Seman, Molina Nijhar, Nick Moore. *ITM-UNESCO Manpower Survey of Libraries, Information Services and Archives in Malaysia, 1986*

libraries that were identified but no response were given. Nevertheless, this data showed that there is a considerable market available, and hence a need for more IP. The Directory of Malaysian Librarians, published in 1986, on the other hand listed the total number of 383 IP as of 31st August, 1985.

Libraries	Number	Rate of Increase Since the 1982 Census
National Library	1	
Public Libraries	70	.63%
Academic Libraries	111	147%
Special Libraries	265	.58%
Total	447	

Table 3. The number of libraries in Malaysia in 1985
Source: Panduan Perpustakaan di Malaysia = Directories of Libraries in Malaysia. 3rd ed. Kuala Lumpur Perpustakaan Negara, 1990.

By July, 1992, SLIS, ITM has produced 858 IP, employed in all sectors of the economy. A cross-tabulation by sex reveals that the majority of the graduates, that is 545 or 63. 5 percent are female and 313 or 36.5% are male (see Table 4). In 1986 the total number of graduates was 447 IP. The majority of the graduates, that is 300 or 67.1 percent are female and 147 or 32.9% are male. This indicates that a profile of the Malaysian u was a female-dominated profession although the picture is beginning to change.[11]

Level	Male	Female	Total
Diploma in Library Science (1972-1992)	256	458	714
Post-Graduate Diploma In Library Science (1972-1992)	.57	.87	144
Sum Total	313	545	858

Table 4. The number of schools of library and information science, ITM graduates by sex and category between 1972-1992
Source: School of Library and Information Science, MARA Institute of Technology, Malaysia. Unpublished Records.

With the implementation of the *National Policy for Libraries and Information Services* in June 1989, libraries using computer have rose in increasing number. At the same period of time, healthy economic atmosphere led to the opening of posts frozen before and computer knowledge was given priority.

[11]School of Library and Information science, MARA Institute of Technology, Malaysia. Unpublished Records.

The *National Archives Act of 1966* clearly makes it compulsory for all government departments to manage their records accordingly but the implementation of this act could not be done due to the unawareness of the departments. This attitude began to change in the 1980s because, with the tremendous increase in volume of government records, concerted effort has to be made to control it. But this could not be done effectively, without records managers and archivists to handle and manage them systematically. The same is true for non-governmental records.

There has been evidence that a 'fee-based-information' service has the potential in Malaysia. Besides, with the rise of the economic activities, and government's policy toward privatization, there is a growing prospect for commercializing information. Meanwhile, the result of a pilot study[12] showed that some categories of professionals, like lawyers, architects and entrepreneurs approved this kind of information service. Their willingness to pay for the relevant information given to them is closely related to the speedy information service they require as well as the profit that could be rendered from it. The availability of this service may release them from the time spent on information searching because 96.6 percent of the respondents acquired information personally.[13]

The development of the profession can be seen by the aspiration of applicants wanting to make this profession as a career. When the programme was first introduced in 1968, there was only 4 students. This figure increased to 6 in 1969 and went up to 7 in 1970. In 1971, the number of students who remained was 5, went up again to 14 in 1972, but it increased drastically to 40 in 1973. This is a clear indication of the level of awareness of the public to join this profession before 1972. From 1974 onwards, the average number of students remain steady at 40. Because of the drastic increase of student application as against the limited number of places of 40, a selection procedure has to be taken to screen and interview the candidates. The latest selection exercise showed that more than one thousand students applied and 700 were called for interview. The number of students selected was increased to 90 to fill the three areas of specializations and the gender difference has been planned to be 50% male and 50% female. This data showed that this profession has gained popularity and there has been positive attitude of male students wishing to enter this profession. The data indicates the changing demographic pattern since 1986, and that the IP in Malaysia would not necessarily be dominated by female.

Expectation from the Information Professionals

Evidence of the development of sophisticated information needs and the use of technologies is revealed, not only by the findings of the ITM/UNESCO survey but also from the proliferation of publications since 1985, like *Computer times* and *Hi-Techs*. The 1990s, on the other hand witnessed the beginning of automation programmes by all academics libraries and the increasing number of special libraries and information centers. The field of information is emerging as a synthesis of many diverse lines of theoretical and pragmatic endeavour. It is expanding rapidly, gaining strength in its technology, and stretching into new areas of application. In this context,

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[12]Zohra Ibrahim, Salmah Salleh, and Mohd. Sharf Mohd. Saad. Feasibility Study of Privatized Information Services in Lembah Kelang. School of Library and Information Science, Institut Teknologi MARA, 1989.

[13]Ibid.

in addition to the conventional library skills, cataloging, classification and reference, the new IP are expected to be more information literate which include the capabilities to carry out the following task:[14]

i. Studying and understanding information user needs.
ii. Designing systems for the management of information
iii. Searching, collecting and processing information using computer technology
iv. Setting up databases in organisations and database networks at the national level.
v. Developing information as a resource or commodity which contributes to the national economy.
vi. Form the workforce critically needed in developing the information infrastructure for the nation.

In another findings emanated from the survey of 89 organizations in the public and private sectors within the vicinity of Kuala Lumpur and Selangor, 94.4 percent of respondents revealed the importance of information in the conduct of their business.[15] What is more pertinent to the roles and careers of IP in Malaysia is the unanimous consensus of the need of certain skills and traits of IP. At the same time, these findings have bearings, not only on the expected information services but also on the training programme of IP in Malaysian library schools. Some of the professional skills and qualities are the abilities[16]:

1. to apply, use, evaluate, and maintain a computerized library systems, on-line searching for bibliographic and reference information systems, relevant softwares in administration, networking, and new information technologies.
2. to design, manage, and evaluate a database system.
3. to add value to information by way of information analysis service or repackaging of information.
4. to understand the information seeking behaviour of users from various disciplines.
5. to apply interpersonal communication, and written communication as well as public relation.
6. to utilize the four types of information sources appropriately, people, institutions,information systems, and literature, including unpublished documents.

The findings on the study on the information needs of government decision-makers in 1986[17] showed that decision-makers needed information services, and regard both formal and informal information imponent in supporting the varied nature of their policies. The information services are needed, not only to support certain statements but also to reinforced certain evidences, to make comparison, to get additional information, to get a second opinion, and also to update certain policies. IP working in this area of information work realize that extra effort has to be given in view of the fact that the decision makers do not have the time to conduct their own information searching by virtue of their position in the government.

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[14]Institut Teknologi MARA. School of Library and Information Science Proposed New Curriculum 1990:10-11.

[15]Adnan Jamaluddin an Mohd. Sharif Mohd. Saad. Professional Skills and Qualities for Information Personnel, CONSAL, singapore 1991.

[16]Ibid.

[17]Raja Abdullah Yaacob, Laili Hashim, and Fuziah Mohd. Nadzar, Study on the Use on Information by Government Decision-makers and Their Awareness on Information and Information Services. petaling Jaya: SILS, ITM, 1989.

Types of Information Professionals

Librarians/Information Scientists

The types of information professionals as seen in Table 5, are closely linked with the varied demand of organizations, some newly established as a result of the varied and rapid economic and industrial developments and also the shifts of concentration based on the diversification policies of the government. While there is a need to fill the posts of librarians in the national. public, academic, and special libraries continues, there is also a need for new IP like the information officers, information specialists, or information analyst. Current employers often look for personnel who could bridge the gap between traditional librarianship and information science. In fact, with the information explosion, the complexities of the government machineries, government's intense policies toward trading, not only with her Asian counterparts, but also with nations of the South, has induced the government to establish the data banks and to create a post known as information officer in each government department.

Records Manager

The increasing number of government departments, agencies and organizations in the private sectors have naturally increase the volume of records. The records explosion has gone so far that the present one-institutional function of the National Archives of Malaysia has to be reviewed. Records is actually information in its own right and no administration can do without it. What is crucial as far as records management is concerned is the efficient maintenance of the records, currently in use so that systematic storage is maintained which in turn allows quick retrieval. The intermediate period of records has also to be handled because records that are seldom used has a special place in the management of records. The final stage of records retirement has to be considered, not only to save space but also to save the entire national heritage from being misplaced and lost forever. It is mandatory for the government agencies to take proper care of these three levels involved in records evolution as stipulated by the National Archives Act of 1966. But even though the non-governmental agencies are not bound by this act, proper management of the company records is essential, because fast retrieval of company's information affects the profit margin of the companies. Lack of proper management of government records has led to not less than ten firehazards, destroying vast amount of vital record since 1980s. Such situations have subsequently led to calls for the establishment of records center in every department and agency. However, a large majority of the departments are unable to do so. The non-existence of qualified professionals to do the job has given the SILS, ITM the task of preparing the right IP to work in archive and records centers, manuscripts repositories, historical association centers companies, and even in libraries that collect local history records or university records and archives.

Training of IP

It would also be interesting to see how the country attempts to meet these new challenges,not only for more manpower, but also for professionals who could cater for the changing in formation needs. During the 1970s, the profession of librarianship was only known to produce the traditional librarians, but at present there is a demand for a 'new breed' of professionals like, information officers, records managers, information consultants, or information analyst (see Table 5).

Before	Present	Future
Academic Librarian	Academic Librarian	Information Broker
National Librarian	College Librarian	Records Manager
Public Librarian	Development Officer	Information Specialist
Special Librarian	Documentation Officer	Information Consultant
	Executive Operation Officer	Information Manager
	Information Analyst	
	Information Specialist	
	Library Supervisor	
	Executive Officer	
	Information Officer	
	Media Library Officer	
	National Librarian	
	Public Librarian	
	Records Management Officer	
	Research Assistant	
	Research Officer	
	School Librarian	
	Special Librarian	

Table 5. Types of information professionals

Background

As a former British colony, it is not surprising that the system of education in Malaysia resembles that of the British counterpart. Hence, even the training of IP followed along the British pattern, that is the ALA qualification, at the first professional level or at the post-graduate level. If the prospective librarians decided not to enrol in the British Library Schools, their next choice would be in the library schools in Australia or New Zealand. The implication of this phenomenon has led to the creation of a group of information professionals, serving mainly in the academic and national libraries and the type of professional qualification was the one-year post-graduate diploma in library science taken after their undergraduate degrees. Another characteristic of the earlier IP is that they were employed fresh from university by the libraries and their professional qualification were attained only after some period of time working in the libraries.

School of Library and Information Science, MARA Institute of Technology (SLIS/ITM)

The historical roots of this pioneer programme stretch back for more than 24 years under the School of Administration and Law, and span across the School of Library Science in 1970,and later changed into the School of Library and Information Science. Until July 1992, it has been the only training centre for IP in Malaysia. Students enrolled in the programmes are prepared to sit for the Library Association, United Kingdom, external professional examination, known as the

Associateship of the Library Association. In 1972 the ALA programme was discontinued, leaving a vacuum in the training of IP. A state of panic might have appeared if not for the launching of a local undergraduate library programme known as the *Diploma in Library Science*, with the goal of providing the training of librarians that suit the needs of the local environment. Not withstanding the need for quality professional elements, the new programme included local curriculum, incorporating local elements related to local needs. While the ALA curriculum emphasised totally on the professional subjects, the new curriculum also included academic subjects and languages. However, the post-graduate curriculum remained solely professional-based content. Since the 1972, a 'revolution' in the education and training of IP has taken place.

Apart from the expansion and revision in the library school curricula which has resulted in the introduction of new subjects within the field of library and information science, other courses have been designed in order to link library science courses with specific area of specialization. This is in line with the rapid development of the profession both within and outside the country. The new curriculum is also designed to respond to the findings of the *ITMI UNESCO Manpower Survey* which recommended the training of information professionals in the three areas. Under the new four-year curriculum, it is now possible to specialize in Library Science; Information Science; and Records Management. All these courses help to broaden the students' career spectrum and contribute to the higher calibre of graduates of these programs. Effort is also being made to allow students to concentrate in areas like Law, Business, Music, Theology, or Medical Librarianship. In the same curricular, the academic base is strengthened to include a minor in an academic discipline with the objective of equipping graduates with subject knowledge to serve the increasingly sophisticated information seeking behaviour of patrons and also to broaden the students' educational base, thus increasing their job markets.

The Need for New Programs for IP

Curriculum development in ITM is an ongoing process. As long as there are external factors that influence library education and librarianship, like changing societal needs; other academic institutions; environmental changes; and technological changes, the task of revision, expansion, and redesigning of curricular will continue. Library practitioners, educators, and the employing agencies have worked together as panel of our curriculum development, under one external examiner[18] to produce the curricula that would meet the interests of students and employers.

Changing Societal Needs

Library education in Malaysia in general and ITM in particular, have strived in responding to various needs of society by redesigning appropriate curricular. Since traditional curricula are facing challenges of social change, librarianship have been more accommodating and moved towards information science way back in 1980s when information science elements were made as integral components of the curriculum. The present goals and objectives of the school curricular have expanded to cover the whole area of information science and records management adequately.

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[18]The present external examiner is Professor Martha Dosa from Syracuse University's School of Information Studies.

Changing Environment

The information era is felt in Malaysia. This is reflected by the government's information policies, guidelines and organizational infra-structures which monitor and encourage responsive programs. At the same time the post-industrial development has continued to have a major impact on the library development in Malaysia. Economic developments, foreign and domestic economic competition have made information a more important commodity to research, education, and decision-makings. Societies' appetite for information has been fuelled by the new information technologies, like CD-ROM which is capable of increasing the availability of information. In a competitive environment of a corporate organization, for example, information is viewed as a critical resource to organizations. Finally, the development of the national, public and academic library and information centers is an encouraging scenario that enhances the career of IP in Malaysia.

Other changes in the environment that have to be considered are the new education system,which emphasizes on innovativeness among students, information literacy, and their increasing demand for effective library services. The open university concept, the twinning programmes between local and foreign universities, joint programmes with private institutions, all of which have an impact on the IP in Malaysia.

Technological changes

Essentially, the transfer and applications of new technologies in Malaysian libraries depends on several factors. Once the application of the new technology is underway, the libraries have to meet other related challenges. These includes, not only the provision of the hardware, software, budget for the acquisition of the technologies but also trained staff, and efficient maintenance programme. The government of Malaysia in its *National Policy for Library and Information Services*, clearly indicated the need for more training of computer literate information officers who are able to apply and operate the new information technologies. In fact, "since 1985 the trend of development of the information industry in Malaysia has shown a clear need for the emergence of professional manpower to create and manage databases and information systems to fulfil the objectives of creating an information-rich nation. The education and training of this professional manpower is important because of the crucial role it plays in the socio-economic development of the country, where the wide variety of information that is generated, needs to be processed and treated as an economic resource that can contribute to national development,"[19] According to Halim, the Federal government encourages the development of information system and

application of advanced technologies in government agencies, including libraries.[20] *The Sixth Malaysia Plan of Malaysia* clearly stipulates that [21]:

a. "Several measures will be undertaken to ensure widespread diffusion and application of updated and advanced technology, especially in areas that are becoming more technology

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[19]*Institut Teknologi MARA School of Library and Information Science Proposed New Curriculum.* 1990:6.

[20]Interview with Dr. Abdul Halim, from the Technological Development Department, Prime Minister Department.

[21]*Malaysia. Sixth Malasyia Plan 1991-1995. Kuala Lumpur:* Prime Minister Department, 1991.

and information intensive. The govemment has announced long-range plans for a substantial expansion of resources in new and emerging technologies to ensure focus in areas which can yield the highest economic pay-offs."

b. "An important pre-requisite in building linkages and consensus for an effective management and coordination of Science and Technology (S &T) policies and programmes will be the establishment of an efficient mechanism for information gathering and dissemination. For this purpose, a National Science and Technology Intelligence and Information System will be established to enhance the availability of information on S & T development.Such a system will facilitate the rapid and effective dissemination of information on S & T, assist in the coordination and monitoring of R & D programmes as well as collate information and data for the formulation of relevant S & T policies, strategies and programmes."

In fact, the recommendations emanating from the Seminar on National Policy for Library and Information Services, 1984 states among others:

"the resources of printed and other materials of non-confidential nature in libraries and information centers directly or indirectly funded by the government are part of the total information resources of the country and shall be made available for the use of all Malaysians through viable resource-sharing programmes, networking and the use of appropriate computer and telecommunication technologies."[22]

These evidences reveal the seriousness on the part of the decision makers to implement new technology in the running of the government organizations and related agencies. The provision of information to users could now be further enhanced by the advent of information technology. Information storage and retrieval are now beginning to be mechanized in most Malaysian libraries and information centers. The role of the School of Library and Information Science, in inculcating this new technology is reflected by the curriculum which emphasizes on the application of information technologies. In the syllabus of the SILS, ITM the elements of information technology began even at the beginning of the programmes.[23] The *Foundation of Library and Information Science* course exposes the students to the multi-media information, including the electronic information. This is followed by a course on the *Element of Information Science* which emphasizes on the information technology aspects as well as the philosophy of information science.Subsequently, more courses on library automation are required and in the final semester, students could opt for elective courses on information technology. The new syllabus,introduced in July 1992 allows students to specialize in Information Science in which emphasis is given on the systems and theory as well as the application of information technology. Nevertheless, in the school's present programme, students are accessible to the computer facilities in the computer laboratory as well as in the library where CD-ROM systems are available for search. The three-month (for under-graduates) and one month (for the post-graduate) internship would also expose some students to the IT system if the libraries they are attached with use the system. It is indeed the goal of the school to allow prospective graduates to learn both theory and practice as they are the potential IP. The SILS, ITM, has played an active role in preparing the prospective IP to understand, appreciate and handle this technology. In fact the R & D undertaken by a group of faculty members have successfully produced and marketed a software package for library automating system, known as SISPUKOM (Sistem

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[22]*Formulating a National Policy for Library and Information Services; the Malaysian Experience*/ edited by Oli Mohamed. Petaling Jaya: Pelanduk Publications: 121.

[23]Two programs are offered, i. the undergraduate and ii. the one-year post-graduate.

Perpustakaan Komputer). This package has been awarded ACUCOBOL CERTIFICATION, and currently can be executed across over Hardware and Operating Systems that ACUCOBOL supports. Such contribution of our local IP is indeed a breakthrough.

Library education needs to emphasize on the unique information roles found in all kinds of libraries as well as focus on the changes in information media and use in light of the advancement of new technologies, one of which is optical disk technology. As Mary Culnan reiterated, "Educational programs at all levels should focus on adapting the traditional skills to new environment brought by the technological and external environmental changes.[24]

Challenges in the Training of Malaysian Information Professionals

The fact that only one institution was available to run the training may seem to imply that the demand for librarians was not great. But with the increasing demand for trained professionals which is due to the need for higher academic background, and subject knowledge, more institutions have begun to venture in the training program.

There has been a growing need for graduate library professionals in the library profession.Professional librarians in Malaysia has long endorsed a post-graduate level as a prerequisite for professional information work, although faced with the need for collection building or library planning not all have demonstrated a well-defined mastery in their subject knowledge. So far two universities have done its part in providing the program, leading to a masters degree.

University of Malaya

The Masters of Library and Information Science Programme (MILS) was established under the Institute of Advanced Studies at the University of Malaya in November 1987 and the first intake was seven students. Howe.er, the programme which would have been the first masters programme in this field in the country did not last long and was terminated half-way.

International Islamic University (UIA)

There is an obvious need for opportunities to further the education in this field and UIA Masters in Library Science programme is an encouraging step towards achieving this end.The first batch of applicant for the July 1992 session, accounts to 70, but 31 were short-listed and 25 were selected. While the main objective of this programme is to produce professional IP, it also integrates the disciplines of human sciences and Islamic heritage.

At this point, one may conclude that the three patterns of library programme have developed in Malaysia. One pattern is the perpetuation of the conventional preparation of librarians in the historic traditional manner. The other programme has seemingly nothing to do with librarianship, but instead 'information science.' They find hospitality in other setting as the computer centers. While the word 'library' is seldom mentioned, its product are prepared for careers in information services. It would be mistaken to assume that they will have no influence upon libraries. Another programme seeks to adapt and advance library education by retaining

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[24]Mary J. Culnan, "What Corporate Librarians Will Need to Know in the Future," *Special Libaries*,Fall 1986:214.

that which remains intellectually viable from traditional elements and grafting on newer approaches and components need to make librarianship more adaptable with contemporary requirements within the Malaysian and Islamic cultural settings in which libraries now function. Another pertinent picture is the development of IP with different professional information qualifications in undergraduates and the post-graduates levels, as illustrated in Table 6.

Professional Qualification
DIL (Malaysia)
ALA (UK)
ALAA (Australia)
MLS or equivalent (UK, USA, Australia, Philippines)
POST-GRADUATE DIPLOMA (UK, Australia. New Zealand, Malaysia)
MIS (UK, USA)
Ph.D (UK, USA)

Table 6. Types of professional qualifications

Career Development

Late 1970s and Mid-1980s onwards witnessed a new trend in the IP development in Malaysia. Numerous scholarships were awarded to students wishing to pursue their Masters degree in library and information science abroad, since no such programme was offered in the country. Tradition shows that most Malaysian students are inclined to choose United Kingdom as their venue to pursue higher education, a testimony of the great British influence. Two institutions that have been traditionally training the Malaysian librarians are the College of Librarianship, Aberystwyth, Wales, and Loughborough University of Technology. Lately, the City University, London, University College London, Sheffield University and Strathclyde University and also the University of Philippines are added to this list. In fact, the deans of the Loughborough and Wales schools have been the external examiners of the SILS, ITM for several times. By early 1980s, there was a switch of orientation on the part of the government, to send students to America for further education.More American library schools began to receive applicants from Malaysia, as more scholarships were awarded. Among the universities that offer many students in their MLS programmes are the University of Western Michigan, Case Western Reserve University,University of Pittsburgh, Simmon College. University of Maryland, University of Syracuse, University of Iowa, University of Denver, Indiana University, University of Wisconsin, University of New York and lately the University of Michigan. Most of the graduates have returned home to begin their career in all types of libraries, or teach in the library school. With opportunities open for the IP to further their education locally, it is imperative that the number of those who attain the masters degree would increase. The number of IP who have successfully attained their qualifications at Ph.D level is five in 1992.

The Future

Information has been recognized as a very important commodity needed in national development. This warrants adequate supply of IP. The field of information studies could achieve a wider job spectrum to suit the optimistic future. Malaysia is in the midst of rapid

economic growth inter-twined with the rapid development of libraries and information centers. Direct relevance to the field of information are services needed by the different organizations, research centers, and community information organizations. This reflects the kind of IP that are needed by the country. The IP have earned a recognition as being able to cater for varied information needs and therefore, the training programme for IP should accommodate more specializations in its information studies programme, in line with the national objectives. The future would give impetus to some developments as stated below:

1. Need For Accreditation. As more library schools come into being, a form of accreditation exercise may be introduced in order to achieve uniform standards and excellence in library schools programmes and the profession at large.
2. The above development would further lead to new breed of IP, who are in fact in existence in developed nations. The schools could now produce graduates who can work in a whole range of different work-situations as information brokers, online search specialists, information resource managers, and system analysts. The training that they receive and the experience that they would get working in research libraries and information centers would enable them to venture into the lucrative area of information brokers.
3. The Vision 2020 would need a more dynamic role of IP. To this regard, Shahar Banum of the National Library said that, "Perhaps we should be an active learners with interactive skills, and act as a "team player" with other professions whom we are dealing with and competent in the management of change, instead of being passive. Human resource development and management for librarians and information personnel will assume a new role and importance."[25]
4. The Information Profession should identify changes and new requirements.
5. Special libraries and information centers in Malaysia could sell their services for a fee to interested individuals and organizations. Because of the specialized nature of information found in special libraries and information centres, the technology involved, the demand for such information by outsiders, and the desire to keep costs down, have led libraries to begin offering their expensive services to the public and other organization for profit.
6. Better access to information and resource-sharing, enhanced by the improvement in networking systems.

Conclusion

Information professionals have to keep abreast, not only with the global trends and development of the profession, but also with the need and aspirations of the country. In the light of the present economic climate, it is perhaps appropriate to predict the bright future ahead of the IP profession in Malaysia. As said by the visiting President of Uzbekistan, *Dr. Islam Karimov*, "Malaysia is a particularly interesting model to study because it had been able to conduct a well-balanced policy that has resulted in political stability, inter-racial and inter-religious harmony and economic progress."[26] As regards to the existing library schools, the graduates should be trained with the mind placed on the varied needs, namely the market, society, environment, and technological changes. The curriculum of the SLIS,ITM have changed and will continue to change. While the trend is towards specialization,the integration of computer application into

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[25]Shahar Banum Jaafar. *Planning Human Resources Requirement for Malaysian Libraries in Public Sectors*. Petaling Jaya, IIU, 1992.

[26]Juhaidi Yean Abdullah, *New Strait Times*, 20th June 1992.

the curriculum is prominent. This is because as said by Hayes, "automation is an integral part of library operations and services, in every type of library and information organizations."[27] IP in Malaysia have dual responsibilities, not only to provide efficient services but to increase the rate of information literacy among its patrons. As said by Bucklands, "the needs, information-gathering behaviour and institutional contexts of groups to be served such as the students, researchers, children, the aged... and those in the managerial, political, and technological areas, means most likely to be useful in developing and providing good library service."[28] IP in Malaysia are also in a period in which they are competing and constantly being competed with very fiercely for continued responsibility and control of information function.Traditional library programmes, functions and staffing represent only one of the many alternatives. Changes is the end product of finding new solutions to the present and anticipated demands of future information customers.

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[27]Robert Hayes, "Accreditation," Library Trends 24 (Spring 1986):537-559.

[28]Michael Buckland, "Education for Librarianship in the Next Century," *Library Trends* 34 (Spring 1986):777-778.

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Section I: Africa

INFORMATION PROFESSIONAL: AGENT OF CULTURAL PRESERVATION AND PROMOTION IN AFRICA

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Introduction

Change and evolution seem to characterize the world. New ideas, concepts, methods, terms etc. occur almost everyday, meaning also abandoning what is old. But, to be old does not necessary mean bad or obsolete. Also, the new thing is not always the best or the most valuable.

Information professional, or as others say, information specialist is a new term. It means and comprises, for the purpose of this paper, people who work in information services, libraries, documentation centers, archives, computer services, etc. These people work with new and old materials, printed and non-printed items, containing or supporting all information knowledge. By handling these kinds of materials and many others, the information professional participates, in some way in the process of production, preservation, dissemination and promotion of knowledge.

Responsabilization

In many african countries, it is not easy to find someone with just one responsibility. Most of people carry out many responsibilities, depending on their capacity and their professional environment. There are information professionals who have, for time to time to order materials, assist users, publish documents, etc... At the same time, they are called to teach, to conduct research, to take active part in professional associations and meetings, etc...

Besides their professional responsibilities, many information professionals have also to work in other areas of activities. Sometimes, they teach, they participate in research and mainly in management positions outside their field. In these new positions or responsibilities, many of them succeed.

The main reasons for having all these responsibilities are the insufficiency of qualified professionals, the enormous emerging needs to satisfy and especially, the total involvement of information professionals in their institutions or communities. It also means the aspiration of some information professionals to do other thing or to work in other areas.

Professional environment

Information professionals work in intellectual and exciting environment. Generally, the work of information professionals consists of ordering, acquiring, processing, keeping, preserving materials, storing, searching and retrieving information, assisting and helping users in finding information and materials, publishing documents, disseminating and communicating information, etc... They handle materials or tools of several kinds, such as printed materials, microforms, computer, CD-ROM, etc... They work with people from different background, different professions and different training levels.

When analyzing this kind of work, one finds the following characteristics:

- The information professional handles materials that contain information or knowledge. He works with knowledge. He records, keeps and disseminates knowledge. He is in touch with users of knowledge. By this work, he not only keeps and preserves knowledge but also facilitates and encourage its production and its dissemination.
- The information professional works in an environment with a lot of human interaction. There is interaction when ordering materials, searching information, assisting users, providing and disseminating information, etc... In all this activities, he deals with people to satisfy, assist or inform. So, by this work, there is mutual influence. Not only there is interaction but also participation and communication.
- In order to be efficient and competitive, the information professional is always in a learning situation. He reads and learns to up-date and broaden his knowledge. He learns in order to satisfy well his users. He is like a teacher who learns not only his own culture but also mainly for his students.

So, an information professional is someone who deals with knowledge that he shares with others. In his work, there is a lot of interaction, participation and involvement in the activities of others. By doing so, he has a great influence on his environment.

Cultural aspects

As seen above, the african information professional has many responsibilities that involve him in various kinds of activities, within and outside his institution. He is in touch with people to provide materials or information, to keep them informed, to up-grade and up-date their knowledge for the improvement of their professional activities and their welfare. By this activities, the information professional raises, broadens and sustains the intellectual level or knowledge of his community. He is very much concerned with the intellectual life or cultural aspect of his people.

The word culture may have various meanings. Culture can be taken as "knowledge"[1], as the accumulation of information. It means knowledge needed for "what to do" or "how to do it". In this aspect, culture comes from information, learning and interaction with people. According to this meaning, a cultured person is someone who is educated, a scholar or an erudite.

The african information professional has much to do about this aspect, knowing that in most of communities or institutions, there is a lack or insufficiency of information services, libraries, documentation services where people can get materials or information. The information professional is the one who knows the needs and requirements of his community and how or where to get materials or information to satisfy their intellectual or cultural needs.

The other sense, perhaps the most used when talking about culture is "the conceptual structures" of the "process of passing on what has been learned before to succeeding generations"[2]. Following this aspect, culture means "beliefs, forms of social organization, specific historical

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1 Schweder, A. Richard and Levine, A. Robert. *Culture theory: essays on mind, self and emotion.* Cambridge, Cambridge University Press, 1984, p. 114.

2 Idem. p. 114.

incidences, customs, traditions and rites, knowledges, know-how, modes of expression, present in given rural area"[3].

The culture of a group or a people concerns then their hole life, the way they act, react and express, their technologies, institutions, structure and norms. It also comprises the manner they interpret events occurring in their life or their environment.

The information professional, being a member of the group, participates in the cultural life of his community. But, he is not only a consumer or a beneficiary of the culture. He is also an active member, participating greatly in the preservation, dissemination and promotion of the culture.

Preservation and promotion

As we have seen, culture is knowledge. The information professional provides information or knowledge. The knowledge is basic to wisdom, progress and welfare. The information professional works not only to feed the intellectual needs of his users but also to enhance the entire cultural life of his group. The african information professional can participate in enhancing, promoting and developing cultural values of his community in several aspects, such as:

- inventorying and recording items materializing cultural aspects. Not only physical objectifs but also,
- registering the oral culture, knowing that the orality characterizes the african culture;
- collecting, keeping and preserving all the works symbolizing cultural activities;
- promoting, bringing up to date the values of the culture;
- making known the culture to other people or other nations, etc.

The activities of recording or registering the oral culture are not only important but urgent and indispensable in order to preserve the african culture. Because of the fragility of the supports of the culture and the ephemeral life of people, recording and preservation programmes should be undertaken.

The use of new information technologies can be of great value mainly in keeping images and recording voices. Whatever the recording device that is used, the originality and the reality should be preserved. According to the oral aspect of the african culture, it is known that "the orality constituted and constitutes again in rural area a fundamental characteristic of the african, especially bantu"[4].

The information professional will have then, among his responsibilities, the collecting, recording, keeping an preserving symbols or cultural supports. His participation in these activities will make him not only a man of knowledge but also a catalysor of cultural development. By his work he will preserve and promote the culture, he will facilitate the dissemination, the exchange and the mixture of culture, being the basic condition for human understanding.

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3 Centre International des Civilisations Bantu (CICIBA). Paris, Harmattan, 1989, p. 161.

4 CICIBA. op. cit. p. 153

Conclusion

The value of a country or a community is in its culture because culture forms its soul and its spinal cord. Africa is known and appreciated to be rich in culture. This inherited richness is to be preserved so that it can be passed on to future generations.

However, it is known that the world is witnessing tremendous changes, caused particularly by the explosion of information and knowledge, and by the expansion of new information and communication technologies. New ideas, concepts, manners, beliefs, etc. are penetrating african societies, even in rural areas. This is in someway an advantage but, it can be a disadvantage for the culture.

The preservation and promotion of african culture is not going backward or against the modernity. It is just a way of letting people discover themselves, live their authentic life and trace their human development accordingly. By tasking part in these kinds of actions, the african information professional encourage and stimulates development and welfare to start within people and for people. Certainly, it can also be a way of improving and promoting his "image, status and reputation" because as has proved a recent study, "there is a severe lack of professional leadership and this is due to lack of professional culture"[5].

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ROLES, CAREERS AND PROSPECTS FOR TOMORROW'S INFORMATION PROFESSIONAL IN FRENCH SPEAKING SUB-SAHARAN AFRICA

Synopsis

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The paper provides a short review of the specialized educational programmes available in French speaking sub-saharan Africa and an analysis of the curricula offered at the School of Librarians, Archivists and Documentalists (EBAD) of the University Cheikh Anta Diop. It then turns to consider the legal statuses and overall social situation of the information professionals in the considered sub-region. In a fourth part, it outlines the shortcomings of EBAD's present educational programmes and the required changes. In a final and longer part, Olivier Sagna offers a profile of tomorrow's information professional as it results in his view from the changes taking place in the sub-region.

In the first part the programmes in Benin, Burundi, Cameroon, Ivory Coast, Niger and Zaire are briefly presented and a more comprehensive history and description of EBAD is offered.

The curricula of both the degree (baccalaureate + 2 years) and master (baccalaureate + 4 years) of EBAD are described in some detail. The degree programme is offered in three specific options: librarians, archivists and documentalists, which share a number of courses. The same options are available in the master programme; however the first year is a common core curriculum. The instruction methods and background of the faculty are also discussed.

A legal status for information professionals, who are in their vast majority employed in the public sector, is enforced only in Benin, Burkina-Faso, Cameroon, Congo, Ivory Coast, Mauritania, Senegal and Zaire. The one in Mali was not yet implemented and one is under preparation in Gabon. Even though they may be useful, it is stressed that legal statuses, which are so much sensitive to the information professional, hardly solve all the problems. If their absence or inadequacy may to some extent reflect the lack of attention paid to the profession the latter may also be due to the overall cultural and socio-economic conditions prevailing in the region. In many instances governments and donor agencies set up information services and staff them with unqualified personnel which only receives short term training. The poor image and self-esteem of the profession is witnessed in a recent survey which showed that 68% of the professionals wished to leave it.

Rather than in a status or attractive name, it is in a more appropriate education that information professionals could get the new strengths they need. The rigidity and obsolescence of the present curriculum at EBAD is emphasized. To the extent it caters for a number of general courses aimed at upgrading the basic knowledge of the students, little room is left for expanding the coverage of information subjects. Such complements should rather be sought outside of the curriculum, e.g. by taking courses in other Departments. Information subjects should also be taught giving full consideration to the far reaching technological changes that have occurred, in particular the mushrooming of the applications of information technology. It should also acknowledge the fact that placement of alumni within the government sector is no longer exclusive, as it used to, nor a priority. More active instructions methods and tools should be used. The programmes should

respond to the needs for continuing education and offer part time studies. A prerequisite for such a change lies perhaps in a faculty development programme, to the extent EBAD has no PhD, thus little involvement in research, while no faculty has a professional experience.

Tomorrow's information professionals in French speaking sub-saharan Africa should in the first place have a dual competence in a subject matter and in information sciences, in order to perform well within a variety of environments and teams. They should further be able to operate in any type of information service and carry out any of its functions, reminding that most units are very small, often one person. This polyvalency may also be the best insurance for job seeking in a narrow market and adapting to constant change. Since the job security which so far prevailed does no longer exist and private sector employment will become predominant, they should be adaptive and flexible. They should even more become aggressive and market oriented. In this respect, special attention needs to be paid to the specific socio-cultural traits of African societies, in particular the role of oral communication. This calls for a special emphasis in their education on information technology, communication and interpersonal skills, and management techniques. Deregulation, sectoral adjustments, the promotion of private enterprises, decentralization and moves toward political pluralism create as many new demands for the provision of proper information services in all segments of African societies, while economic pressures are likely to remain drastic. Educators and education in information field should quickly adjust to these requirements.

RÔLES, CARRIÈRES ET PERSPECTIVES DU PROFESSIONNEL DE L'INFORMATION DE DEMAIN EN AFRIQUE SUBSAHARIENNE FRANCOPHONE

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Dans cette communicaiton intitulée Rôles, carrières et perspectives du professionnel de l'information de demain en Afrique subsaharienne francophone, nous nous proposons de présenter d'abord l'offre de formation en sciences de l'information, puls le contenu des programmes, en insistant puis particulièrement sur ceux de l'Ecole des Bibliothécaires, Archivistes et Documentalistes (EBAD) qui est l'institution d'enseignement la plus importante en la matière dans la zone géographico - linguistique considérée. Dans un second temps, nous décrirons le statut et la situation actuelle du professionnel de l'information pour enfin tenter de définir quel devrait être son profil dans les années à venir et par conséquent envisager les nouvelles orientations que devraient prendre les programmes d'enseignement. Précisons que si le champ de cette communication se limite à l'Afrique francophone, c'est moins en raison d'un choix délibéré que compte tenu du peu de temps dont nous avons disposé pour réaliser ce travail, de la difficulté à nous procurer les données relatives à l'Afrique anglophone et lusophone et de notre méconnaissance de la situation prévalant sur le terrain à l'échelle globale de l'Afrique.

L'offre de formation en Afrique subsaharienne

A l'heure actuelle, il existe un certain nombre d'établissements dispensant une formation diplomante en sciences de l'information en Afrique subsaharienne francophone[1]. Parmi ceux-ci on peut citer:

- au Bénin, le Centre de Formation aux Carrières de l'Information (CEFOCI), rattaché à l'Université Nationale du Bénin, qui recrute des titulaires du baccalauréat et décerne, à l'issue d'une scolarité de trois ans, un Diplôme de Tecnicien Supérieur en Sciences et Techniques de l'Information[2];
- au Burundi, l'Institut Supérieur du Commerce de l'Université du Burundi qui dispose d'une section bibliothéconomie et dispense une formation en deux ans aux titulaires du baccalauréat;
- au Cameroun, l'Ecole Supérieure des Sciences et Techniques de l'Information du Cameroun (ESSTIC) qui forme essentiellement des journalistes mais qui a ouvert récemment une filière destiné aux documentalistes;
- en Côte d'Ivoire, le Centre de Formation et d'Action Culturelle (CAFAC) qui dépend du Ministère de l'Information, de la Culture, de la Jeunesse et des Sports qui recrute des titulaires du baccalauréat et décerne à l'issue d'une année de scolarité un diplôme d'aptitude aux fonctions de bibliothécaires[3];
- au Niger, l'Institut de Formation aux Techniques de l'Information et de la Communication (IFTIC) qui forme après le baccalauréat des "thécaires" à l'issue d'une scolarité de deux années;
- au Zaïre, l'Institut National d'Archivistique, de bibliothéconomie et de Documentation (INABD) qui décerne à l'issue d'une scolarité de trois ans un graduat dans l'une des trois spécialités et le Studio - école de la Voix du Zaïre qui offre une formation spéciale en documentation et archives audiovisuelles[4];

Cependant, le plus ancien et le plus important d'entre eux est l'Ecole des Bibliothécaires Archivistes et Documentalistes (EBAD) de l'Université Cheikh Anta Diop de Dakar (Sénégal). Créé en 1963, sous l'appellaiton de Centre Régional de Formation des Bibliothécaires (CRFB) des pays d'expression français à l'initiative des autorités sénégalaises, avec l'aide de l'UNESCO et de la France, cette institution ne délivrait alors qu'une simple attestation à l'issue d'une scolarité d'une année. Entre 1963 et 1967, elle forma ainsi une cinquantaine de professionnels originaires du Bénin, du Burkina Faso, du Burundi, de Côte d'Ivoire, de Guinée, du Mali, de Mauritanie, du Niger, du Rwanda, du Sénégal, du Togo, du Tchad et du Zaïre. Transformée en 1967 en institut d'université, le CRFB pris l'appellation d'Ecole des Bibliothécaires Archivistes et Documentalistes bien qu'il ne comportat alors que la seule section Bibliothèque[5]. Ce n'est qu'en 1971 que la section Archives sera mise sure pied[6], suivie en 1975 par la section Documentation. Acceuillant les titulaires du baccalauréat pour des études d'une durée de deux ans, l'EBAD forma exclusivement du personnel d'éxécution de 1967 à 1981. Selon l'option suivie, les étudiants se voyaient décerner le Diplôme d'Aptitude aux Fonctions de Bibliothécaire (DAFB), le Diplôme d'Aptitude auz Fonctions s'Archiviste (DAFA) ou le Diplôme d'Aptitude aux Fonctions de Documentaliste (DAFD). En 1982, un second cycle d'études, également d'une durée de deux ans, fut créé de manière à former le personnel d'encadrement dont les unités d'informatin avaient besoin. Ouvert aux titulaires du diplôme du premier cycle justifiant au moins de trois années d'expérience professionnelle ou au titulaires d'une licence, il débouche sur l'obtention d'un Diplôme Supérieur en Sciences de l'Information et de la Communication (DSSIC) avec une option correspondant à l'une des trois filières de formation. A ce jour, l'EBAD a formé, toutes filières et cycles confondus, 1337 (mille trois cent trente sept) professionels.

Analyse des programmes d'eseignement

L'EBAD présentant l'avantage de former des professionels de l'information dans les trois spécialités que sont l'archivistique, la bibliothéconomie et la documentation et d'offrir par ailleurs deux cycles d'études, nous limiterons notre analyse des programmes d'enseignement des sciences de l'information en Afrique subsaharienne francophone à cette dernière institution.

Concernant le premier cylce, il existe un certain nombre de cours communs à deux ou trois des filières, en première comme en deuxième année. Ainsi, on note en première année:

- 104 h de catalogage, 52 h de bibliographie, 26 h de techniques de l'édition, 26 h d'informatique générale + 13 h de travaux pratiques, 13 h de droit, 13 h d'histoire de l'Art, 26 h d'anglais et 26 h de dactylographie qui sont communes aux trois filières,
- 26 h de bibliothéconomie communes aux sections documentation et archives,
- 26 h d'histoire des civilisations africaines et 52 h de travaux pratiques de bibliographie communes aux sections archives et bibliothèques,
- 26 h de psychosociologie de l'information, 26 h de théorie de la communication et 52 h d'archivistique communes aux sections bibliothèques et documentation.

En seconde année, la répartition des cours communs est la suivante:

- 52 h d'anglais et 26 h sur les sources orales communes aux trois sections,
- 104 h de bibliographie, 26 h de réseaux documentaires, 26 h de cours d'informatique documentaire + 26 de travaux pratiques communes aux sections bibliothèques et documentation,
- 26 h de documentation communes aux sections archives et bibliothèques.

Par ailleurs chaque section dispense, en première comme en deuxième année, un certain nombre d'enseignements qui lui sont propres. Ainsi les archivistes reçoivent des cours relatifs aux

institutions coloniales et contemporaines, à la méthodologie historique et à l'explication de textes, à l'archivistique, aux techniques de conservation, à la gestion des documents administratifs et à l'automatisation des archives. De leur côté, les bibliothécaires reçoivent des cours relatifs à la littérature, à l'histoire des idées, à l'organisation et à la gestion des bibliothèques, à l'histoire du livre et à la bibliothéconomie. Enfin les documentalistes reçoivent des enseignements relatifs aux langages documentaires, aux techniques d'indexation et d'analyse, à la recherche documentaire, aux réseaux documentaires, à la typologie des documents, à la diffusion de l'information, à l'organisation et à la gestion des unités documentaires ainsi qu'un cours intitulé science et méthodologie. En dehors des enseignements à proprement parlé, à l'issue de la première année et au cours du deuxiéme semestre de la deuxième année, les étudiants effectuent un séjour obligatoire d'un mois dans une unité documentaire qui donne lieu à la rédaction d'un rapport de stage.

S'agissant du second cycle, son originalité réside dans le fait que la première année d'études consiste en un tronc commun aux trois sections. Ce dernier comprend les matières suivantes:

- catalogage (52 h)
- informatique générale (26 h)
- techniques de conservation (26 h)
- mathématiques et statistiques (26 h)
- anglais (52 h)
- psychosociologie de l'information (52 h)
- droit administratif (26 h)
- introduction à la bibliothéconomie (26 h)
- introduction à la documentation (26 h)
- introduction à l'archivistique (26 h)
- méthodologie de la recherche (26 h)
- organisation et gestion (52 h)

En seconde année, quelle que soit l'option choisie, les étudiants ont encore un certain nombre de cours communs, tels l'informatique documentaire (26 h), l'anglais (52 h), la documentation adminstrative (26 h) et la recherche documentaire (52 h). Par ailleurs un cours sur les langages documentaires (52 h) est commun aux sections bibliothèques et documentation. Cela étant en fonction des options, certains cours s'adressent plus particulièrement aux archivistes, aux bibliothécaires ou aux documentalistes. Ainsi, les archivistes bénéficient de cours de gestion des documents (52 h), de diplomatique moderne (26 h), d'historique des institutions (26 h) et sur les sources de l'histoire africaine (26 h). Les bibliothécaires eux se voilent dispenser des cours de bibliothéconomie (52 h) et de bibliologie (52 h) alors que les documentalistes suivent des enseignements relatifs à la diffusion de l'information (26 h) et à la sémantique (14 h)[7]. Par ailleurs, l'obtention du diplôme du second cycle est subordonnée à la rédaction d'un mémoire de fin d'études portant sur un sujet en rapport avec les sciences de l'information.

Concernant les méthodes pédagogiques utilisées, quel que soit le cycle et l'année d'étude, la majeure partie des enseignements est dispensée sous la forme de cours magistraux qui font peu appel à participation active des étudiants et se limitent trop souvent à présenter uniquement l'aspect théorique des choses. Par ailleurs les supports audiovisuels, pourtant très utiles pour l'enseignement, sont peu ou pas utilisés. S'agissant des enseignants, il faut noter qu'aucun d'entre eux n'est titulaire d'un diplôme en sciences de l'information de niveau troisième cycle. Tous sans exception ont une formation de base dans une discipline autre que les sciences de l'information que ce soit 'Histoire, la Géographie, l'Economie, les Lettres classiques ou modernes ou encore le Droit. A cette formation de base, de niveau DEA ou 3ème cycle, vient s'ajouter un diplôme de niveau second cycle (INTD, DESS, ENSB, CIA, etc...) dans une des trois spécialités

enseignées[8]. Cela explique en partie, la faiblesse, à la fois quantitative et qualitative, de la recherche en sciences de l'information en Afrique francophone subsaharienne[9]. De plus, il faut préciser que la majorité des enseignants n'a aucune expérience pratique du métier de professionel de l'information ce qui représente sans conteste un handicap pour des enseignants évoluant dans des filières à vocation professionnelle. Enfin, if faut souligner qu'il n'existe pratiquement aucune structure qui prenne réellement en charge les questions relatives à la formation permanente.

Statuts et situation des professionnels de l'information

En Afrique subsaharienne francophone, seuls le Bénin, le Burkina Faso, le Cameroun, le Congo, la Côte d'Ivoire, la Mauritanie, le Sénégal et le Zaïre ont un statut régissant les professionnels de l'information[10]. Le Mali dispose bien d'une loi organisant la profession mais jusqu'à ce jour celle ci n'est pas entrée en vigeur faute de décret d'application[11]. Enfin, il faut signaler qu'un statut des professionnels de l'information est en cours d'adoption au Gabon[12]. Dans les autres pays, l'absence de statut est très mal vécue par les professionnels de l'information qui y voilent, à juste titre, une des manifestations de la faible reconnaissance sociale que leurs accordent les sociétés dans lesquelles ils évoluent. Cependant, l'existence d'un statut est loin de régeler tous les problèmes et globalement l'ensemble des professionnels de l'information déplorent pêle - mêle la marginalisation, la méconnaissance, le peu de considération, voire le mépris, dont ils sont victimes.

Cette situation s'explique notamment par la difficulté d'obtenir une reconnaissance sociale dans des pays où le taux d'analphabétisation varie de 46.2% (cas de la Côte d'Ivoire) à 81.8% (cas du Burkina Faso). En effet, lorsque l'écrasante majorité de la population est analphabète et n'a donc pas accès aux services d'information, tant par ignorance de leur existence et de leur fonctionnement que par impossibilité de les utiliser de manière autonome, il est difficile d'attendre de cette masse une quelconque reconnaissance. Mieux, à cela vient s'ajouter la place centrale qu'occupe l'oralité dans les cultures africaines[13], oralité qui n'est pas sans poser de problèmes à des professionnels de l'information qui ont pendant trop longtemps considérés, à tort, que leur fonction consistaient en la gestion de documents, pour ne pas dire de livres, au lieu de se consacrer plus largement à la gestion de l'information au sens large. De plus, dans nos pays dits en développement, compte tenu de l'urgence qu'il y a à mettre sur pied des systèmes d'information, on estime trop souvent, tant au niveau dès responsables nationaux qu'à celui de ceux qu'il est convenu d'appeler les bailleurs de fonds, qu'ils n'est pas nécessaire de disposer d'une formation spécialisée et d'un niveau d'étude particulier pour excercer les fonctions de professionnel de l'information. Cela se traduit par la multiplication de "formations" non diplomantes de courte durée qui laissent entendre que l'on peut former des professionnels de l'information en quelques mois voire en quelques semaines. Cette conception des choses a pour conséquence directe que les systèmes d'information sont le lieu privilégié où l'on envoie toutes les personnes dont on ne sait quoi faire ou qui possèdent les niveaux d'instruction les plus faibles. En retour, les utilisateurs ayant l'habitude d'être confrontés à des "professionels de l'information" n'ayant reçu aucune formation, ils se font fait, petit à petit, à l'idée que n'importe qui pouvait jouer le rôle de bibliothécaires, d'archivistes ou de documentalistes. Enfin, et ce n'est pas le moindre des paradoxes, nombre de professionnels ne sont pas convaincus de l'utilité de leur fonction et de la nécessité de la défendre. Peut être vaincus par l'environnement hostile dans lequel ils évoluent, ils sont près de 68% à souhaiter changer de profession. D'autres cherchent une porte de sortie plus honorable en essayant de se départir des étiquettes trop chargées (négativement?) que sont les appellations de bibliothécaires, d'archivistes ou de documentaliste pour se muer en "spécialistes de l'information", en "informatiste" ou même en "informatologist"

et refuser par la même d'être considérés comme des fossiles qui n'intéresseraient plus que les "archéologues" de la profession! En réalité au delà des changements d'étiquettes, ce qui importe le plus, c'est une évolution des formations, prenant en compte l'évolution de la profession et celle des besoins et comportements des utillisateurs. C'est cette évolution, et non la recherche éperdue d'une appellation plus valorisante, qui est à nos yeux le meilleur gage pour favoriser l'emergence d'un professionnel de l'informatin moderne évoluant en phase avec l'environnement dans lequel il se meut.

Les formations de demain

L'analyse des programmes de l'EBAD a mis en évidence ce qu'il faut bien appeler leur obsolescence à la fois du point de vue des matières enseignées, du contenu des enseignements, des volumes horaires et des techniques pédagogiques utilisées. Si l'on veut se donner les moyens de changer cette situation valablement et durablement, il faut à la fois modifier les programmes d'enseignement et rectifier le profil des enseignants qui interviennent dans les institutions de formation.

L'examen de la structure des programmes, qui est restée quasi inchangée depuis la création des différentes sections, laise apparaitre une conception de la bibliothéconomie, de la documentation et de l'archivistique qui n'a pas su prendre suffisamment en compte l'évolution rapide et profonde qui a touché les sciences de l'information. Ainsi pour s'en limiter aux sections bibliothèques et documentation, on note la véritable tyrannie exercée par l'enseignement de la bibliographie et des techniques de catalogage. Par ailleurs de trop nombreux cours destinés à la formation générale des étudiants, certe importante, viennent alourdir les programmes actuels et interdisent quasiment l'introduction de nouvelles matières ou l'allocation de volumes horaires plus importants à certaines d'entre elles.

S'agissant des matières enseignées, face à la nécessité de prendre chaque jour en compte de nouvelles disciplines ou technique dont la maitrise est devenue vitale pour les professionels de l'information, il faut de notre point de vue supprimer des cursus la majorité des cours dits de culture générale, tels histoire des civilisations, histoire de l'art, histoire des idées, littérature non pas que ceux - ci soient inutiles en eux - mêmes, bien au contraire, mais pour la simple et bonne raison qu'il ne revient pas aux écoles en sciences de l'information de combler les lacunes constatées chez leurs étudiants en matière de culture générale. L'EBAD évoluant dans un cadre universitaire, il faudrait plutôt inciter les étudiants intéressés par ces matières à suivre des cours en auditeurs libres dans les diverses facultés de l'UCAD. En ce qui concerne la dactylographie, le droit, les mathématiques/statistiques et l'économie, l'optique de leur enseignement doit être revue. Ainsi, le cours de dactylographie doit être transformé en un cours de traitement de texte, le cours de Droit ne doit plus consister en la présentation des principes généraux mais s'attacher au contraire aux problèmes spécifiques qui interpellent les professionnels de l'information (droit d'auteur, dépôt légal, propriété industrielle, etc..), le cours de mathématiques/statistiques doit mettre l'accent sur l'élaboration et l'interprétation des statistiques et le cours d'économie doit se transformer en un enseignement relatif à l'économie de l'information. Du point de vue des contenus, il faut absolument introduire les technologies de l'information dans tous les cours ou elles devraient intervenir. Ainsi, l'indexation automatique, le catalogage informatisé, la recherche documentaire informatisée, doivent être introduits dans les enseignements, de même que l'utilisation des tableurs et autres logiciels d'aide à la gestion dans les cours d'organisation et gestion et les logiciels de PAO dans les cours de techniques d'édition. Il faut également introduire des cours de management des systèmes d'information, insister sur la conception, la réalisation et la maintenance et la gestion de bases et banques de données, mettre l'accent sur

la réalisation de produits documentaires d'un genre nouveau intégrant l'approche marketing et s'adaptant véritablement aux besoins des utilisateurs[16]. Enfin, il faut développer l'aspect communication et mettre en oeuvre des modules de spécialisations en information agricole, économique, adminstrative et juridique, médicale et sociale, et autre, former à la création de services télématiques, etc... D'autre part, il faut changer la philosophie de nos formations jusqu'alors implicitement tournées vers la satisfaction des besoins de l'administration. En effet, à quelques rares exceptions près, les systèmes d'information d'Afrique francophone subsaharienne appartiennent jusqu'à présent dans leur écrasante majorité au secteur public et para-public. Ainsi, il suffit de parcourir les répertoires d'unités documentaires portant sur tel ou tel pays ou sur l'Afrique francophone en général pour s'apercevoir de la prédominance des structures dépendant à un titre ou à un autre du secteur publics bien que celles-ci soient très souvent privés de public comme le déclare avec humour B. Cesari[17]. Cela a eu notamment pour conséquence que pendant longtemps les écoles en sciences de l'information ont formé des professionnels qui étaient majoritairement voire uniquement destinés à être aspirés par l'appareil d'Etat ce qui faisait que l'on formait des gens destinés à être des fonctionnaires avec tout ce que cela peut impliquer de négatif du point de vue des mentalités (routine, manque d'initiative, rigidité des mentalités, coupure d'avec la société civile, éloignement des préoccupations des acteurs économiques, etc..) Pour ne prendre que l'exemple du Sénégal, une étude réalisée en 1987/1988 par Y. Gueye montre qu 80% des documentalistes formés par l'EBAD entre 1976 et 1986 sont employés dans le secteur public ou para-public[18]. A l'heure actuelle, les politiques d'ajustement structurel qui impliquent une stagnation, voire même dans certains cas une diminution, des effectifs de la Fonction Publique au nom du "moins d'Etat mieux d'Etat" font que le secteur public et para public offre de moins en moins de débouchés alors que paradoxalement il est loin d'être saturé en professionnels de l'information bien au contraire. Ainsi, toujours au Sénégal depuis 1985, la fonction Publique a cessé d'engager automatiquement les étudiants sortant de l'EBAD et depuis quelques années un phénomène identique est observable dans les pays dont sont originaires les étudiants en formation à Dakar. De ce fait les écoles de formation se doivent de former des professionnels ayant un autre profil et ceux qui sont déjà en activité se doivent de changer leurs attitudes et leurs pratiques pour être prêts à se déployer dans le secteur privé.

Pour ce qui est des techniques pédagogiques, la place accordée aux cours magistraux devrait être sensiblement diminué pour privilégier un enseignement de type plus participatif. Des méthodes semblables à celles utilisées dans les écoles de commerce (cf. étude de cas, plus grande immersion dans le milieu professionnel, etc..) devraient être utilisées. Par ailleurs l'utilisation des supports audiovisuels à des fins pédagogiques devrait être beaucoup plus importante pour pallier l'impossibilité qu'il y a parfois à montrer certaines réalités. Concernant le profil des enseignants, il est indispensable que ceux-ci puissent, à court ou moyen terme, se spécialiser véritablement en sciences de l'information en préparant des diplômes de niveau 3ème cycle (Doctorat, Phd, etc..). Pour ce faire, il faudrait d'une part élaborer des plans de formation et par ailleurs rechercher les financements nécessaires à l'octroi de bourses leurs permettant de suivre ces formations. A terme, compte tenu de la spécificité de leur enseignement, il nous semble qu'à l'image des enseignants de médecine, ils devraient être à la fois des l'universitaires et des praticiens. En tant qu'universitaires, ils devraient bien entendu se consacrer à l'enseignement mais également à la recherche en sciences de l'infomation et en tant que praticiens ils devraient avoir la possibilité de mettre en pratique leurs connaissances et/ou recherches, similtanément ou en alternanace avec leurs autres tâches.

Enfin, il est indispensable que les écoles de sciences de l'information prennent véritablement en compte la dimension formaiton permanente[19]. Il s'agit d'une part d'offrir aux professionnels déjà formés la possibilité de remettre régulièrement à jour leurs connaissances et voire d'acquérir un

complément de formation et d'autre part de prendre en charge les personnes qui travaillent dans les systèmes d'information sans avoir reçu une formation appropriée pour des raisons qui tiennent soit à leur niveau de scolarité (cf. non possession des diplômes requis pour entrer dans les écoles de sciences de l'information) soit à l'impossibilité dans laquelle elles se trouvent de quitter leurs fonctions pour suivre un cursus qui peut durer entre un et trois ans. Pour ne pas tomber dans le travers des "formations à la va vite" que nous avons denoncées plus haut, il faudrait mettre sur pied des formations consistant en une série de modules capitalisables débouchant sur un diplôme reconnu (un peu à l'image de ce qui se fait à l'Université pour l'obtention de certains diplômes). Cette formule aurait pour avantage de permettre aux personnes intéressées de gérer avec souplesse leur plan de formation et surtout de leur ouvrir de nouvelles perspectives professionnelles.

Le professionnel de l'information de demain

Tenter de décrire ce que devrait être le professionnel de l'information de demain en Afrique subsaharienne francophone est un peu une gageure, car il est toulours délicat de vouloir louer les devins tant les changements sont parfois brusques et imprévisibles. Cependant au vu des tendances qui semblent se dégager, quelques hypothèses peuvent être avancées. A nos yeux le professionnel de l'information de demain en Afrique francophone subsaharienne devra posséder quatres qualités essentielles qui sont la spécialisation, la polyvance, l'adaptabilité et l'agressivité.

Spécialisation

Le professionnel de l'information de demain se devra d'être un spécialiste dans le sens où il devient de plus en plus évident que la seule maitrise des techniques documentaires est insuffisante pour satisfaire efficacement les besoins des utilisateurs. Par spécialisation nous entendons donc la necessité pour les professionnels de l'information de demain d'avoir un solide background dans une discipline ou un domaine d'activité donné. Cela implique au niveau de la formation que les études en sciences de l'information n'interviennent qu'après un cycle d'études équivalent au niveau de la licence voire de la maitrise dans un domaine quelconque. En effet, s'il veut se donner des chances de survivre le professionnel de l'information devra être en mesure de s'intégrer à toutes sortes d'équipes (de recherche, de décision, etc..) dans lesquelles il devra pouvoir participer activement et presque sur un même pied d'égalité avec les gens du domaine.

Polyvalence

Le professionnel de l'information de demain se devra également d'être polyvalent[20] de manière à pouvoir évoluer aussi bine dans tous les types d'unités documentaires (archives, bibliotèques, centres et services de documentation, etc..) que dans d'autres structures qui ne porteront pas formellement cette étiquette mais au sein desquelles il aura un rôle important à jouer. Mieux, il nous semble important de préciser que ce rôle ne sera pas forcément identifié par un label renvoyant explicitement au champ d'intervention des professionnels de l'information tel qu'on le conçoit actuellement, mais qu'il sera plutôt reconnu en terme d'une fonction consistant à manager l'information. En effet dans le secteur privé, moins attaché que l'administration à certaines dénominations, c'est l'efficacité et l'opérationnalité qui prime sur l'etiquette ou le diplôme. Par ailleurs, s'attacher à la fonction plus qu'à l'étiquette nous semble le meilleur moyen de ne pas enfermer les professionnels de l'information dans des carcans dans lesquels ils se trouveront rapidement à l'étroit vue la rapidité et l'imprévisibilité de l'évolution du domaine

dans lequel il interviennent. Polyvalent aussi, car souvent, en Afrique francophone subsaharienne, les systèmes d'information à gérer sont de petite taille et il faut donc être en mesure de tout faire ou presque. Tout faire ou preque en termes de tâches documentaires, tout faire ou presque en termes de fonctions dans le sens ou il faut pouvoir et donc savoir être à la fois archiviste, bibliothécaire et documentaliste, tout faire ou presque enfin parceque le professionnel de l'information se voit souvent confier des tâches qui ne sont pas directement de son ressort. Polyvalent enfin car compte tenue de l'évolution rapidde et impr evisible de la profession une spécialisation trop pointue risque à moyne ou à long terme d'être un handicap plus qu'un avantage tant du point de vue de la recherche d'un emploi que de celui de l'exercice même de la profession.

Adaptabilité

En relation directe avec ce qui vient d'être dit, le professionnel de l'information de demain devra savoir faire preuve d'une grande adaptabilité à la fois aux changements induits directement par l'évolution de la profession et indirectement par la transformation de l'environnement immédiat dans lequel il se meut. De plus, en raison d'une conjoncture économique difficile dont rien ne permet de penser qu'elle évoluera favorablement à court et même à moyen terme, il s'avère que de plus en plus les diplomés des écoles de sciences de l'information qui trouvent du travail dans le privé se voilent offrir des contrats à durée déterminée. Cela entraine des changements fréquents d'emplois, de millieux et donc de façon de travailler qui réclament des aptitudes particulières et notamment la capacité à s'adapter rapidement à de nouvelles situations de manière à pouvoir non seulement faire face mais aussi et surtout être rapidement opérationnel d'autant plus que la durée des contrats éxcèdent rarement quelques mois. Adaptabilité enfin, car la fonction publique ne jouant plus le rôle de receptacle naturel des diplômes des écoles en sciences de l'information qu'elle a joué pendant longtemps, le secteur privée, auquel la notion de garantie de l'emploi est totalement étrangère, est désormais le secteur vers lequel devront se tourner les professionnels de l'information avec tout ce que cela implique en terme de mobilité sociale.

Agressivité

Le professionnel de l'information de demain devra être également être agressif, dans le sens où il devra animé d'un autre état d'esprit, savoir se mettre en valeur, savoir se vendre et être prêt à travailler dans des structures qui ne porteront peut être pas l'étiquette de bibliothèques ou de centres de documentation mais à l'intérieur desquelles il aura à jouer un rôle de gestionnaire de l'information ou de gestionnaire des ressources informationnelles au même titre que l'on gère aujourd'hui les ressources humaines. Pour ce faire, il lui sera nécessaire de faire preuve de suffisamment de dynamisme pour ne pas être assimilé, comme c'est souvent le cas aujourd'hui, à un vulgaire "gardien de livres". Grâce à sa spécialisation, sa polyvalence et son adaptabilité, il ne devra pas hésiter à investir les nouveaux espaces qui ne manqueront pas de se créer, dans la profession comme sur ses marges, plutôt que de se lamenter sur les risques de disparition de la profession provoqués par l'évolution de son environnement.

Ceal étant, le professionnel de l'information de demain devra maitriser un certain nombre de techniques et de technologies. Parmi les techniques qui nous semblement indispensables, il y a les techniques de management (adminstration, gestion, marketing), les techniques de communication (expression écrite et orale, mise en forme de l'information, production de documents, bureautique, PAO, etc..) auxquelles vient s'ajouter l'aujour'hui incontournable

maitrise des technologies de l'information (bases et banques de données, CD-ROM, outils multimédia, etc..).

Technologies de l'information

Le professionnel de demain, même en Afrique subsaharienne zone de sous-développement par excellence, devra maitriser les technologies de l'information qui touchent aujourd'hui nos pays à une vitesse et avec une profondeur jusqu'alors inconuue. En effet, si pour des raisons de formation et de coût, l'informatique centralisée puis la micro-informatique ont mis un certain temps pour s'implanter dans les services d'information en Afrique francophone subsaharienne, aujourd'hui la vitesse supérieure a été enclenchée et les technologies de l'information se répandent à un rythme soutenu, à tel point que certains parlent même "d'épidémie"[21]. Ainsi, dans un pays comme le Sénégal, une enquête faite par D. Tamboura a permis de constater que 52.6% des unités documentaires sont informatisées et que 36.84% envisagent de le faire dans un avenir proche[22]. Le matérial étant là, les compétences en la matière se développant et al culture informatique gagnant du terrain, le délai entre l'apparition de nouvelles technologies dans le domain de l'information et leur utilisation dans nos pays tend à se réduire considérablement. L'exemple du CD-ROM est là qui nous montre comment ce support, en qui nombre de professionnels africains placent de nombreux espoirs[23], s'est répandu en l'espace de deux ou trois ans au point d'être un produit vedette à la Bibliothèque Universitaire Centrale de l'Université Cheikh Anta Diop de Dakar. La maitrise de la micro-informatique, des logiciels documentaires, de la PAO, des nouveaux supports tels le CD-ROM, les unités de scanérisation, etc.. sera indispensable de même que la capacité d'utiliser, voire dans certains cas de concevoir, mettre en oeuvre et assurer la maintenance, de services télématiques. En effet aujourd'hui de nombreaux pays possèdent ou projettent de se doter de réseaux de transmissions de données par paquets (SENPAC au Sénégal, GABONPAC au Gabon, SYTRANPAC en Côte d'Ivoire, CAMPAC au Cameroun, etc..) qui ouvrent la voie à l'ère de la télématique. Au Sénégal notamment, dans le cadre du projet de Réseau National d'Information Scientifique et Technique (RNIST), des bases et banques de données interrogeables via le réseau de transmissions de données par paquets SENPAC à partir de terminaux vidéotex de type Minitel ont déjà été conçues mais.. par des informaticiens[24]. Il revient donc aux professionnels de l'information de se donner les moyens d'investir ce nouveau domaine pour ne pas se retrouver demain en train de protester vainement contre la présence d'intrus dans une chasse que l'on voudrait gardée alors que l'on ne s'y était guère intéressée avant de découvrir qu'elle pouvait être giboyeuse![25]

Techniques de communication

Le professionnel de demain devra posséder les qualités et la formation qui feront de lui un "metteur en forme" de l'information, en clair un professionnel capable de l'adapter et de la reformuler en fonctions des besoins de différents groupes - cibles[26], dont le grand public qui, avec la démocratisation des systèmes politiques et les politiques de décentralisaiton, aura un besoin croissant d'information en tous genres pour exercer véritablement son rôle de citoyen responsable. Le professionnel de demain devra être capable non seulement de diffuser l'information se trouvant sur les supports classiques ou nouveaux mais également de faire remonter ou de reconditionner l'information éparse, diluée, virtuelle qui existe ça et là. Le professionnel de l'information de demain se devra d'être un bon communicateur[27], une personne sensible au marketing de sa profession et donc capable de mettre en oevre des stratégies de promotion de ses activités. Il devra rompre avec l'attitude qui a consisté pendant trop longtemps à se contenter de fournir des produits et services documentaires standards. Cette démarche découlait à la fois, du peu d'importance accordée aux utilisateurs par les professionnels de

l'information obsédés alors par le document, de la gratuité totale des prestations fournies qui n'était guère stimulante, de la relative homogénéïté des utilisateurs (enseignants, chercheurs, étudiants, fonctionnaires et "développeurs") et du faible niveau d'exigence exprimée par ces derniers. Cependant demain, sous la pression de différents paramètres, les professionnels de l'information se verront obligés, bon gré malgré, d'adapter produits et services en fonction de la spécificité de la demande. Un des éléments qui amènera à ce type de comportement est sans aucun doute la tendance à la commercialisation des activités d'information qui s'est développée avec l'apparition des appareils de reproduction des documents (photocopieurs) puis surtout des bases et banques de données dont l'interrogation est non seulement payante mais couteuse. Dans ce nouveau contexte l'utilisateur de jadis est en train de se transformer en client avec toutes les exigences que cela implique puisque comme le dit l'adage populaire: "le client est roi". Par ailleurs, l'évolution de l'idée que ce font les professionnels de l'information de leur mission mettra, à terme les utilisateurs, au coeur de leurs préoccupations. A ce sujet, il est intéressant de noter qu'à l'heure actuelle déjà, lorsque l'on demande à des professionnels de dire à quoi se résulte leur fonction, ceux-ci répondent très souvent en affirmant qu'elle consiste à satisfaire les besoins des utilisateurs sans même faire allusion au transfert de l'information. Ceci dit, les politiques de désengagement de l'Etat qui visent à favoriser l'apparition d'opérateurs économiques privés dans le monde rural comme en milieu urbain, le développement d'unités documentaires dans le secteur privée et la manifestation de besoins d'information nouveaux chez les simples citoyens sous l'influence conjuguée des progrès de l'alphabétisation, de la soif d'information suscitée par le développement des médias et les nouvelles perspectives offerte par le renouveau démocratique dans nos pays, le public des services d'information s'est élargi à des secteurs de la population qui ignoraient alors jusqu'à leur existence ou presque. Enfin, en relation directe ou non avec ce qui vient d'être dit, les utilisateurs anciens comme nouveaux n'hésitent plus à faire connaitre leurs exigences particulières. Compte tenu de tous ces facteurs, les professionnels d l'information ne peuvent plus se contenter d'élaborer leurs classiques bulletins bibliographiques ou autres revues de sommaires. Désormais, ils doivent être en mesure de reconditionner l'information sous différentes formes (fiches techniques, bases de données factuelles, etc..) en fonction des utilisateurs/clients qu'ils auront à servir. Cependant, leur rôle ne doit pas se limiter à reconditionner une information qu'ils possèdent et maitrisent car ils doivent être également en mesure de traiter toute l'information qui leur échappe jusqu'à présent parceque n'étant pas fixée sur un quelconque support (tradition orale, capital d'expérience, etc..) mais qui est souvent d'une importance capitale.

Techniques de management

Le professionnel de l'information de demain devra être non seulement un bon gestionnaire de l'information, ce qui est sa fonction principale, mais également un bon manageur. En effet, il s'avére que dans le futur, ils devront non seulement avour un état d'esprit "gestionnaire", qui leur permettra de gérer leurs services en obtenant le meilleur ration coût/efficacité[28], mais surtout un état d'esprit manageur. Esprit manageur, car ils devront être capable en permanence, à partir de l'analyse marketing des besoins de l'environnement et à partir du diagnostic de l'organisation, de préciser les objectifs pour les transformer en actions, grâce à la gestion des hommes et des moyens techniques et financiers mis à leur disposition[29]. De plus ils devront être en mesure d'intégrer harmonieusement le service ou la fonction dont ils auront la responsabilité dans un système plus large qui pourra être une adminstration, une entreprise commerciale ou industrielle, un organisme d'enseignement ou de recherche, etc...

Pour nous résumer, nous dirons qu'en Afrique subsaharienne francophone, de nombreux et profonds changements s'imposent, tant au niveau des praticiens qu'au niveau de ceux qui ont

pour mission de les former, afin de donner naissance à une nouvelle race de professionnels de l'information qui sera en mesure de prendre en compte, et même d'anticiper, les bouleversements qui s'annoncent dans le domaine du transfert de l'information.

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Section II: New Directions, New Needs

THE CHANGING INFORMATION SOCIETY: CHANGING THE INFORMATION PROFESSIONAL

MICHAEL HILL
Former President of FID

Let me start with a few recent events in my country, the United Kingdom, and one from the European Community (to which we belong) which are illustrative of the official attitude to information.

1. Government campaigns, such as those to prevent the spread of AIDS or to reduce deaths from smoking or drink driving, are using all the media intensively, especially advertising posters and TV which together reach larger audiences than do newspapers and journals.
2. Privatization policies and the promotion of competition have ensured that neither government nor any one person or organization can have a monopoly of news dissemination nor of broadcasting and telecommunication channels.
3. The Prime Minister has declared that he will promote a policy of "open government" (ie. giving as full information as possible about decisions taken and the reasons for them. There remains an argument about how far freedom to access and publish information can go before it breaches national security, criminal investigations or commercial confidences).
4. The new "Citizens' Charter", which aims to raise the efficiency of those government offices and official agencies and services which cannot be privatized, states among other things that "every citizen is entitled to expect:

   Openness:
   no secrecy about how public services are run, how much they cost, who is in charge, and whether or not they are meeting their standards, which have to be published and prominently displayed at the point of service.

   Information:
   full, accurate information should be readily available, in plain language, about what services are provided"

   There is much more even than this in the Charter, all indicating a move towards a situation in which any member of the public has a right of access to full information about the activities of any government services or agencies which affect him.

5. Schools are being required to publish details of examination results and of truancy rates so that league tables can be compiled and published. This is an interesting example of using information as a weapon to raise standards by enabling parents to see and compare the relative performance of schools.
6. The European Communities Maastricht Treaty document contains the following:
   "Declaration on the right of access to information. This Conference recommends that the Commission submit to the Council [of Ministers] no later than 1993 a report on measures designed to improve public access to the information available to the institutions [of the European Community]".
7. The Department of Trade and Industry has started a major information management initiative to improve the efficiency of its activities.

8. The same Department has started a new scheme for making business information available to companies. If a pilot scheme is successful, a network of several hundred "First Stop Shops" will be established. "Each will offer a range of core services to national quality standards including business information, counselling and advice services. Each will act as a gateway to a wide variety of other programme and consultancy support". (The Minister as reported by the *LA Record*).
9. In his latest Annual Report the Data Protection Registrar expresses concern about the use of information and says "The unquenchable thirst for more information about how people live is stripping Britons of their hard-won right to privacy". On another level there is serious concern about the excessive intrusions by the media into the private lives of both public figures and those ordinary citizens who are caught up in tragedies.

These are just some recent events. The way information manipulation now shapes our lives in the UK is excellently described by Nick Moore and Jane Steel of the Policy Studies Institute in their book *Information Intensive Britain*, published by the British Library. Although some specific details will be different, what it says is true of the other industrialized nations of the world, though I notice that Jens Christensen in his paper alleges that, "So far, the Danish economic system has not been transformed into an information economy, and the Danish society is still no information society".

In recent years there have been serious efforts by many bodies, UNESCO particularly prominent among them, to prevent an information gap between developed and less developed countries growing to match the economic gap. What we are seeing in the countries of North America, Western Europe and Japan is the growth of an information culture, not necessarily desirable in all its manifestations, which is changing the attitudes, values and lifestyles of all the inhabitants. In his masterly handbook *National Information Policies*, UNESCO 1990, Victor Montviloff draws attention to the necessity to "accelerate the acceptance of the concept of information as a national development resource by the national leading administrators within the information profession as well as among the government decision makers". The developed nations have grasped this not just in the context of economic development but now in that of political and social development as well and this is an aspect which both the governments and the information profession in other countries must be prepared to take on board.

Montviloff also emphasizes, "the necessity to ... promote the information manpower training programmes and facilities". A little later he recommends that, "It shall be the policy of government to promote and support the development of qualified personnel for the efficient management of information resources and services".

These three quotations from Montviloff are, admittedly, out of context but the first does hint that the profession's leaders sometimes lack vision. In the other quotations he talks about "information manpower" and "qualified personnel", both terms which include information professionals but which are not necessarily limited to them. Rightly,. I think, he is leaving open the questions of what range of manpower, what range of skills and what range of professions are needed. For us the question is what is the area of skill which should be the province of the so-called information professional. Is it a single profession or a loose federation of several professions? Are the present professions of librarian, archivist and documentalist major or only minor players in the new or, for many countries, future information society? And if minor, what defines the new breed of information professional?

The papers in this volume give an interesting insight into these questions and into the way the requirements vary from country to country and the way they are changing.

Evan-Wong describes the work that is under-way in a small country (population 72,000) to develop the members of an essentially library based profession. Sagna places much emphasis on the type of person, ie his/her character, so that the professional can adapt to developments as they occur and especially the development away from being a mere "guardian of the books". This comes out even more strongly in Anton and Arenas' paper where it says, to quote the Synopsis, "Coherent action is now required to enhance the capacities of information professionals in the management of information. Current leaders in the field of information are traditionalists. Their vision is narrow...", which seems to bear out Montviloff's fear.

Lelo's Synopsis (I have not seen the full paper) interestingly adds culture to the usual STI field of the information professional: "He is the one who gathers, keeps and preserves the cultural [intellectual and artistic] production of a country and also permits the communication and exchange with other nations". Yaacob and Hashim, though still concerned with the STI or Specialized Information sector and with economic development, see clearly the need for professional change. Their list, Table 5, of future professionals includes only Information Broker, Records Manager, Information Specialist, Information Consultant and Information Manager. Even the National and Public Librarians cease to be regarded as information professionals, a view with which I would not disagree. One's work can lie within or be a service to the information sector without one being ipso facto an information professional.

Christensen also tackles the probable need for a break between librarian and information professional but does not feel it need be such a complete break. When, however, one studies the list of subjects taught to and the roles and careers for information professionals in a country like Finland (Warner also emphasises the essentially commercial nature an IP needs), it is difficult to see much residue of librarianship. That is not to say that there is any lessening of the need for librarians of many types. Of course there will always be a need for libraries and for librarians to run them. It is just that as public librarians, who made the first important steps towards the use of published information, had to hand over the leading role to special librarians, now the tome has come for them to hand the baton on to a new group.

Simon reminds us, quoting Oppenheim, that in a recession companies "cut back on the library and information services they control". However, as Moore and Steele have shown, these organizations intensify their use of information management systems which enable them to reduce the number of staff involved in merely retrieving and communicating the information needed for decision taking. The cost of maintaining a company library with associated information staff may well be significantly higher than that of engaging outside specialists as and when required. It does not go unnoticed by top management that these outside information specialists do not maintain libraries but use the excellent range of electronic resources and of national and official and professional special libraries that are available in the major industrialized countries. Also, in some cases, they find that these outside agencies give more thorough and better focussed results than their own in-house service.

However, the need is not just for these outside specialists and consultants. There is real need in an information society for a new profession which can help organizations of all types harness the information technologies to enable them to extract the maximum benefit from information, information resources and the management and manipulation of information. The profession

would be there to advise the government and to advise ordinary citizens who also have to cope with the changes that the new information society imposes our lives.

As Walter Wriston, a former Chairman of Citibank, said in one of the recent Nationhood Lectures[1], "The information economy changes the very definition of an asset, transforms the nature of wealth, cuts a new path to prosperity. The information economy changes everything from how we make a living to how and by whom the world is run. The nature of information, how it is traded and produced, the scope, shape and protocols of information markets and other institutions of an information economy will [have an] impact [on] government policy, set the limits of government power, and redefine sovereignty". Bankers are not usually given to over-dramatic statements, so we should ponder those words carefully.

How then should we create an information profession to meet the needs of the 1990s and beyond. In my view the answer lies in the education programme. Full three year degree courses in information studies, of a standard which stretches the mind every bit as much as those in law or in PPE (politics, philosophy and economics), followed by one or two years training in the techniques listed by Karivalo, should be the normal requirement for admission to the profession. Taking people from other disciplines and tacking on a one year course in information techniques is no longer adequate.

Further, the universities which offer the courses should have active research programmes in the field. Research is as essential to the information field as it is to chemistry or medicine.

If we are to be members of a profession which is in keeping with the new age, we must attract into it the finest brains and effective personalities. This we shall do only by challenging them from the outset to meet the high standards demanded by a good degree course. A career in information must be seen not to be a soft option.

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Section III: Author Biographical Sketches

AIDA DAMAS ANTON (Venezuela)

Born in Caracas in 1944, Aida Damas Anton studied at the Central University of Venezuela from 1967-1972 and at the Escuela de Bibliotecología y Archivología, Facultad Humanidades y Educacíon. Her work experience includes periods at the Consejo Nacional de Investigaciones Cientificas y Tecnológicas, (CONICIT); Dirección de Información Científica y Tecnológica. Especialista de Información III (1977); CONICIT - Consejo Venezolano de la Industria. Centro de Documentación y Referencia, CIDRE (1977-1981); Fundación Instituto Venezolano de Productividad, IN-PRO (1974-1977). Ms Damas Anton also has extensive experience as a Documentalist.

LEIGH BAKER (Australia)

Trained as a librarian in the mid 1960s, Leigh's career includes 7 years as Chief Librarian of an Australian college and 6 years as Deputy Librarian of a university in Papua New Guinea. In addition to extensive other management roles in both institutions, Leigh's public sector career included the management and operation of an army regiment, a Pan Pacific satellite service and a Rotary club; consultant to governments and international agencies on national and international information infrastructure in the Asian and Pacific regions; intelligence officer; and researcher and author, with books, pamphlets, encyclopedia and journal articles published in 6 countries and several languages. He is a Professional Member of the British Institute of Management and the Australian Institute of Company Directors.

Following completion of an MBA in England, Leigh moved to the private sector. For more than eleven years, Leigh has held a number of positions within Ferntree Computer Corporation Ltd., one of Australia's largest information services companies. In his current position as Manager, Business Development in Ferntree Asia Pacific, his primary role is to identify and exploit new business opportunities. He also serves as a strategic business consultant to very large government and commercial corporations and is a frequent convention speaker in Australia, North America and Asia.

LAILI BIN HASHIM (Malaysia)

Laili bin Hashim, 40, has his Diploma in Library Science (ITM Malaysia), and his Msc.Lib.Sc. from Case Western Reserve University. He is Senior Lecturer at the School of Library and Information Science at the MARA Institute of Technology, Malaysia, specializing in cataloguing and classification; reference work; and science and technology. The author of several articles on librarianship and information science, Laili bin Hashim continues to conduct various research projects and presents his papers at various seminars and workshops.

JENS CHRISTENSEN (Denmark)

Jens Christensen is a professor at the Department of Information and Media Science at the University of Aarhus, Denmark.

DAPHNE DOUGLAS (Jamaica)

Daphne Douglas is Head of the Department of Library Studies, University of the West Indies, the regional school for the education and training of information specialists. She was educated professionally at the Leeds School of Librarianship, England, and the University of Pittsburgh School of Library and Information Science. She has been involved on the local, national, regional and international scene, lecturing on a variety of occasions, presenting papers at conferences and seminars and participating in advisory and expert work. She has been active in associations in the field at all three levels. Departmentally, she has pioneered the MLS programme and has been instrumental in the development of automation in libraries' courses. She has been responsible for the installation of a computer network totally funded by projects and is teaching the subject in the formal curricula. She has many publications to her credit. Recently, she has been honoured nationally, having been appointed a Member of the Order of Distinction in the Commander Division by the Governor General.

SUE EVAN-WONG (West Indies)

Sue Evan-Wong works with the Organization of Eastern Caribbean States (OECS) as documentation centre manager at the OECS Economic Affairs Secretariat in Antigua and Barbuda. She has also worked as an information professional in Trinidad and Tobago, Guyana, Kenya, and England. An affiliate member of FID since 1991, she has recently joined FID's Advisory Board for the International Clearinghouse for Information Education and Training.

BARBARA GUMBS (Trinidad and Tobago)

Barbara Gumbs is an Information Specialist and Head of the Technology Information Service at the Caribbean Industrial Research Institute (CARIRI), Trinidad and Tobago, where she has been employed since 1973. She holds a first degree in Geography and a postgraduate degree in Library Science from Case Western Reserve University, Ohio, United States of America.

She became a full member of Beta Phi Mu (International Library Science Honour Society) in 1980, and was chairman of the Working Group on Automation of the National Library Information and Archives Services 1985-1987. Other information activities include:

- *Member of the Caribbean Consultative Committee for Regional Information Systems, Officer for the World Association on Industrial and Technological Research Organizations (WAITRO);*
- *Coordinator of the CARIRI focal point of the Industrial and Technological Information Bank (INTIB) of UNIDO;*
- *Member of the Trinidad and Tobago National Advisory Group of UNESCO/CARSTIN (Caribbean Science and Technology Information Network); and,*
- *Member of the Library Association of Trinidad and Tobago.*

Barbara Gumbs has functioned as CARIRI Project Chief for information projects supported by UNESCO, OAS, UNCTAD, CARICOM and IDRC since 1982.

MICHAEL HILL (United Kingdom)

Born in 1928, Michael Hill was educated at Oxford University (Lincoln College) from 1949-1953 where he read Chemistry. He later became a Fellow of the Institute of Information Scientists, a Fellow of the Royal Society of Arts, Manufacturers and Commerce and a Member of the Royal Society of Chemistry. Mr. Hill began his career as a Research Chemist at Laporte Chemicals Ltd., From 1956-1964 he was employed at the Morgan Crucible Group in various posts including that of Head of Chemical, Physical

and Physical Analysis Laboratories and Technical Public Relations Executive. In 1964, Mr. Hill took up a position of Assistant Keeper of the Classification Section of the British Museum (National Reference Library of Science and Invention) he was later appointed as Director of the NRLSI. Having been employed at the British Museum for almost ten years, Mr. Hill took up the position of Director of the Science Reference Library at the British Library in 1973. By 1988 he had been made Associate Director of Science, Technology and Industry at the British Library. Honorary positions held by Mr. Hill include President of FID from 1985-1990; Vice-President of IATUL, International Association of Technical University Libraries from 1976-1981; and, Chairman of the Council of ASLIB, the Association for Information Management, 1979-1981. Mr. Hill has been an Honorary Fellow of FID since 1990.

***MERJA KARIVALO** (Finland)*

Merja Karivalo is the Director of national and international training programmes on Information Services and Information Management at Helsinki University of Technology, Centre for Continuing Education. She has been a consultant on information services and information management in several companies and offices in the public sector. She is the former President of the Finnish Society for Information Services.

***BARBIE E. KEISER** (USA)*

Barbie E. Keiser, former Manager of Information Resources for The Penn Central Corporation, is an information resources management (IRM) consultant located in New York City. Ms. Keiser specializes in the development of new information products and services, working with existing staff to encourage innovative use and management of information at all levels of an organization. Her novel approach toward IRM has resulted in the successful completion of numerous important projects for publishers and other information providers (i.e. database producers and vendors), government agencies, and not-for-profit organizations around the world.

Ms. Keiser has published a number of articles in business journals and newsletters, and has been a guest speaker at various library association and information industry meetings. Barbie is co-author of ***Marketing Library Services: A Nuts-and-Bolts Approach*** *and has turned the print work into a series of workshops for librarians, information specialists, and information providers (database vendors) which are offered around the world. In 1987, Ms. Keiser was the recipient of the William T. Knox Award from Associated Information Managers (AIM).*

***RITVA LAUNO** (Finland)*

Ritva Launo obtained her degree in chemistry at the University of Helsinki, her degree in informatics at the Helsinki University of Technology and her degree in librarianship at the University of Tampere. She has worked in the Cellulose Research Institute, Syracuse N.Y. and as an information specialist in the Finnish pulp and paper industry and, for the time being, in the Finnish alcohol industry.

Regarding her professional memberships, she was the President of the Organizing Committee of the 44th FID Conference and Congress in Finland in 1988. She was the Vice-President of FID 1989-1990 and the President of FID beginning 1990. She was also the President of the Finnish Association for Information Services from 1980-1982 and the editor-in-chief of ***Tietopalvelu*** *(information service journal) in 1986. She has been chairman of the consulting board of the information services and resources management training programme at Helsinki University of Technology since 1982. She was a member of the committee for organizing an information service network for Finnish small- and medium-sized industries from 1983-1986. She has also been a member of the career women's professional network in Helsinki since 1982.*

MAMOSI LELO (Morocco)

Mr. Mamosi Lelo is Chief of the Information and Documentation Service at the African Training and Research Centre in Administration for Development (CAFRAD), with its headquarters in Morocco. Before going to Morocco, he was Director of the University Library at the University of Kisangani, Zaire, his home country. Mr. Lelo graduated in Library and Information Science from the Florida State University in Tallahassee, USA. He is presently involved in activities dealing with African Government Information Systems, Entrepreneurship and Management of Small and Medium-Scale Enterprises.

IRASET PAEZ-URDANETA (Venezuela)

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GYÖRGY RÓZSA (Hungary)

Born in Oradea, György Rozsa was made Head of the Library of the Hungarian Academy of Sciences (see the World of Learning) in 1960. From 1969 until September, 1975 he was Chief Librarian of the UN Office at Geneva. Professor Rozsa holds a Diploma in Librarianship and a Ph.D. in Economics. He received the Award of the International Council of Archives in 1977 and the "Szabó Ervin" Award of Librarianship in 1981. He has authored approximately 400 publications, including reports and lectures in information science, librarianship, and research management in 12 languages. Professor Rozsa has published the following books in English: ***Scientific Information and Society*** *(1973),* ***Information: From Claims to Needs*** *(1988).*

OLIVIER SAGNA (Senegal)

Born in 1959, of Senegalese nationality, Olivier Sagna gained a higher degree from the University of Paris VII and the Diplôme de l'Institut National des Techniques de Documentation. From 1987-1988, he has worked as an assistant in the School for Librarians, Archivists and Documentalists at the University of Cheikh Anta Diop de Dakar.

MERCEDES SANTANA DE ARENAS (Venezuela)

Born in Caracas in 1950, Mercedes Santana de Arenas went on to graduate, with honours, from the Instituto Universitario Nueva Esparta in 1976. She has had extensive work experience in the field of information: from 1989-1990 she was in charge of Scientific and Technological Information at the Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICIT). She has also spent some time working as a specialist for the Programa Nacional de Política y Administración en Ciencia y Tecnología (Convenio OEA-CONICIT).

***ELISABETH SIMON** (Germany)*

Born in Talinn, Estonia and resettled in Wloclawek, Poland, Ms Simon moved to Hamburg in 1950 where she gained a Diploma in Library Science. Ms. Simon's work experience in the field of librarianship is wide and varied, ranging from that of Public librarian at Offenbach, and exchange librarian in the USA, to librarian consultant on the implementation of a new management structure to the public library system at the Senate for Cultural Affairs, Hamburg. Ms. Simon has also worked intensively in the field of education and has taught at the School of Library Science, Hamburg, book reviewer. Since 1974, she has been in charge of the Foreign Relations Bureau at the German Library Institute, Berlin. Her publications include 4 books covering libraries in Great Britain, France, and library and information systems in USA, Spain and Latin America.

***ALICE SIZER WARNER** (USA)*

Alice Sizer Warner, an entrepreneur, is a consultant, teacher and a writer. Her A.B. is from Harvard/Radcliffe, her M.S. is from Simmons Graduate School of Library and Information Science.

***RAJA ABDULLAH YAACOB** (Malaysia)*

Raja Abdullah Yaacob, 43, received both his MA and Msc.Lib.Sc. from Case Western Reserve University, and his PhD from the University of Michigan. At present, he is a Senior Lecturer of the School of Library and Information Science, MARA Institute of Technology, Malaysia, specializing in archives and records management; information science; information technology; bibliographic control and reference services. He is the author of two monographs and numerous articles on librarianship and information science, conducts research in the field, and has presented papers at a number of seminars and workshops.

ISBN 92 66 00 7013

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